

atgaacatca	tgctgggtg	tc	cgttaccgag	cgcaccaaag	aaatcggcat	acggatggca	900
atcggcgcgc	ggcgcgcaa	tattttgcag	cagtttttga	ttgaggcggt	gttaatctgc		960
gtcatcggcg	gtttggtcgg	cgtgggtttg	tccgcgcgcg	tcagcctcgt	gttcaatcat		1020
tttgtaaccg	acttcccgat	ggacatttcc	gccatgtccg	tcatcggcgc	ggtcgcctgt		1080
tcgaccggaa	tcggcatcgc	gttcggcttt	atgcctgccca	ataaagcagc	caaactcaat		1140
ccgatagatg	cattggcgca	ggattga					1167

<210> 536
 <211> 388
 <212> PRT
 <213> Neisseria meningitidis

<400> 536

Met	Ser	Val	Gln	Ala	Val	Leu	Ala	His	Lys	Met	Arg	Ser	Leu	Leu	Thr
1			5						10					15	
Met	Leu	Gly	Ile	Ile	Ile	Gly	Ile	Ala	Ser	Val	Val	Ser	Val	Val	Ala
			20					25					30		
Leu	Gly	Asn	Gly	Ser	Gln	Lys	Lys	Ile	Leu	Glu	Asp	Ile	Ser	Ser	Ile
		35					40					45			
Gly	Thr	Asn	Thr	Ile	Ser	Ile	Phe	Pro	Gly	Arg	Gly	Phe	Gly	Asp	Arg
	50					55					60				
Arg	Ser	Gly	Arg	Ile	Lys	Thr	Leu	Thr	Ile	Asp	Asp	Ala	Lys	Ile	Ile
65					70					75					80
Ala	Lys	Gln	Ser	Tyr	Val	Ala	Ser	Ala	Thr	Pro	Met	Thr	Ser	Ser	Gly
			85						90					95	
Gly	Thr	Leu	Thr	Tyr	Arg	Asn	Thr	Asp	Leu	Thr	Ala	Ser	Leu	Tyr	Gly
		100						105					110		
Val	Gly	Glu	Gln	Tyr	Phe	Asp	Val	Arg	Gly	Leu	Lys	Leu	Glu	Thr	Gly
		115					120					125			
Arg	Leu	Phe	Asp	Glu	Asn	Asp	Val	Lys	Glu	Asp	Ala	Gln	Val	Val	Val
	130					135					140				
Ile	Asp	Gln	Asn	Val	Lys	Asp	Lys	Leu	Phe	Ala	Asp	Ser	Asp	Pro	Leu
145					150					155					160
Gly	Lys	Thr	Ile	Leu	Phe	Arg	Lys	Arg	Pro	Leu	Thr	Val	Ile	Gly	Val
			165					170						175	
Met	Lys	Lys	Asp	Glu	Asn	Ala	Phe	Gly	Asn	Ser	Asp	Val	Leu	Met	Leu
			180					185					190		
Trp	Ser	Pro	Tyr	Thr	Thr	Val	Met	His	Gln	Ile	Thr	Gly	Glu	Ser	His
		195					200					205			
Thr	Asn	Ser	Ile	Thr	Val	Lys	Ile	Lys	Asp	Asn	Ala	Asn	Thr	Gln	Val
	210					215					220				
Ala	Glu	Lys	Gly	Leu	Thr	Asp	Leu	Leu	Lys	Ala	Arg	His	Gly	Thr	Glu

225		230		235		240
Asp Phe Phe Met	Asn Asn Ser Asp Ser Ile Arg Gln Ile Val Glu Ser					
	245			250		255
Thr Thr Gly Thr Met Lys Leu Leu Ile Ser Ser Ile Ala Leu Ile Ser						
	260			265		270
Leu Val Val Gly Gly Ile Gly Val Met Asn Ile Met Leu Val Ser Val						
	275			280		285
Thr Glu Arg Thr Lys Glu Ile Gly Ile Arg Met Ala Ile Gly Ala Arg						
	290			295		300
Arg Gly Asn Ile Leu Gln Gln Phe Leu Ile Glu Ala Val Leu Ile Cys						
305		310		315		320
Val Ile Gly Gly Leu Val Gly Val Gly Leu Ser Ala Ala Val Ser Leu						
	325			330		335
Val Phe Asn His Phe Val Thr Asp Phe Pro Met Asp Ile Ser Ala Met						
	340			345		350
Ser Val Ile Gly Ala Val Ala Cys Ser Thr Gly Ile Gly Ile Ala Phe						
	355			360		365
Gly Phe Met Pro Ala Asn Lys Ala Ala Lys Leu Asn Pro Ile Asp Ala						
	370			375		380

Leu Ala Gln Asp
385

<210> 537
<211> 1167
<212> DNA
<213> Neisseria gonorrhoeae

<400> 537

atgtcgggtgc	aagcagtatt	ggcgcacaaa	atgcgttcgc	ttctgaccat	gctcggcatc	60
atcatcggtg	tcgcttcggt	tgtctccgct	gtcgcgctgg	gcaacgggtc	gcagaaaaaa	120
atcctcgaag	acatcagttc	gatggggacg	aacaccatca	gcatcttccc	cgggcgcggc	180
ttcggcgaca	ggcgagcgg	caaaatcaaa	accctgacca	tagacgacgc	aaaaatcatc	240
gccaaacaaa	gctacgttgc	ctccgccacg	cccatgactt	cgagcggcgg	cacgctgacc	300
taccgcaata	ccgacctgac	cgtttctttg	tacgggtgtg	gcgaacaata	tttcgacgtg	360
cgcgggctga	agctggaaac	ggggcggctg	tttgatgaga	acgatgtgaa	agaagacgcg	420
caagtcgtcg	tcacgacca	aaatgtcaaa	gacaaactct	ttgcggactc	ggatccggtg	480
ggtaaaacca	ttttgttcag	gaaacgcccc	ttgaccgtca	tcggcgtgat	gaaaaaagac	540
gaaaacgctt	tcggcaattc	cgacgtgctg	atgctttggt	cgccctatac	gacggtgatg	600
caccaaatac	caggcgagag	ccacaccaac	tccatcacgc	tcaaaatcaa	agacaatgcc	660
aatacccggg	ttgccgaaaa	agggtggcc	gagctgctca	aagcacggca	cggcacggaa	720
gacttcttta	tgaacaacag	cgacagcatc	aggcagatgg	tcgaaagcac	caccggtacg	780
atgaagctgc	tgatttcctc	catcgccctg	atttcattgg	tagtcggcgg	catcggtgtg	840
atgaacatta	tgctgggtgc	cgttaccgag	cgcaccaaag	aaatcggcat	acggatggca	900
atcggcgcg	ggcgcgcaa	tattttgcag	cagtttttga	ttgaggcggg	gttaatctgc	960
atcatcgag	gcttggtcgg	cgtaggtttg	tccgccgcgc	tcagcctcgt	gttcaatcat	1020
tttgtaaccg	atttcccgat	ggacatttcg	gcggcatccg	ttatcggggc	ggtcgcctgt	1080

tcgaccggaa tcggcatcgc gttcggcttt atgcctgccca ataaggcagc caaactcaat 1140
ccgatagatg cattggcgca ggattga 1167

<210> 538
<211> 388
<212> PRT
<213> Neisseria gonorrhoeae

<400> 538
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Met Leu Gly Ile Ile Ile Gly Ile Ala Ser Val Val Ser Val Val Ala
20 25 30
Leu Gly Asn Gly Ser Gln Lys Lys Ile Leu Glu Asp Ile Ser Ser Met
35 40 45
Gly Thr Asn Thr Ile Ser Ile Phe Pro Gly Arg Gly Phe Gly Asp Arg
50 55 60
Arg Ser Gly Lys Ile Lys Thr Leu Thr Ile Asp Asp Ala Lys Ile Ile
65 70 75 80
Ala Lys Gln Ser Tyr Val Ala Ser Ala Thr Pro Met Thr Ser Ser Gly
85 90 95
Gly Thr Leu Thr Tyr Arg Asn Thr Asp Leu Thr Ala Ser Leu Tyr Gly
100 105 110
Val Gly Glu Gln Tyr Phe Asp Val Arg Gly Leu Lys Leu Glu Thr Gly
115 120 125
Arg Leu Phe Asp Glu Asn Asp Val Lys Glu Asp Ala Gln Val Val Val
130 135 140
Ile Asp Gln Asn Val Lys Asp Lys Leu Phe Ala Asp Ser Asp Pro Leu
145 150 155 160
Gly Lys Thr Ile Leu Phe Arg Lys Arg Pro Leu Thr Val Ile Gly Val
165 170 175
Met Lys Lys Asp Glu Asn Ala Phe Gly Asn Ser Asp Val Leu Met Leu
180 185 190
Trp Ser Pro Tyr Thr Thr Val Met His Gln Ile Thr Gly Glu Ser His
195 200 205
Thr Asn Ser Ile Thr Val Lys Ile Lys Asp Asn Ala Asn Thr Arg Val
210 215 220
Ala Glu Lys Gly Leu Ala Glu Leu Leu Lys Ala Arg His Gly Thr Glu
225 230 235 240
Asp Phe Phe Met Asn Asn Ser Asp Ser Ile Arg Gln Met Val Glu Ser
245 250 255

Thr Thr Gly Thr Met Lys Leu Leu Ile Ser Ser Ile Ala Leu Ile Ser
260 265 270

Leu Val Val Gly Gly Ile Gly Val Met Asn Ile Met Leu Val Ser Val
275 280 285

Thr Glu Arg Thr Lys Glu Ile Gly Ile Arg Met Ala Ile Gly Ala Arg
290 295 300

Arg Gly Asn Ile Leu Gln Gln Phe Leu Ile Glu Ala Val Leu Ile Cys
305 310 315 320

Ile Ile Gly Gly Leu Val Gly Val Gly Leu Ser Ala Ala Val Ser Leu
325 330 335

Val Phe Asn His Phe Val Thr Asp Phe Pro Met Asp Ile Ser Ala Ala
340 345 350

Ser Val Ile Gly Ala Val Ala Cys Ser Thr Gly Ile Gly Ile Ala Phe
355 360 365

Gly Phe Met Pro Ala Asn Lys Ala Ala Lys Leu Asn Pro Ile Asp Ala
370 375 380

Leu Ala Gln Asp
385

<210> 539
<211> 606
<212> DNA
<213> Neisseria meningitidis

<400> 539
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ttaccctgag ttacacctcg tcgatttttt tggcggtatt ttccttcctg attttgaaag 120
aacggatttc cgtttacacg caggcggtgc tgctccttgg ttttgccggc gtggtattgc 180
tgcttaatcc ctcgttccgc agcggtcagg aaacggcggc actcgccggg ctggcgggcg 240
gcgcgatgtc cggctgggag tatttgaaag tgcgcgaact gtctttggcg ggcgaaccgc 300
gctggcgcgct cgtgtttttac ctttcctgta cagggtgtggc gatgtcgtcg gtttgggcga 360
cgctgaccgg ctggcacacc ctgtcctttc catcggcagt ttatctgtcg tgcacggcg 420
tgtccgcgct gattgcccac ctgtcgatga cgcgcgccta caaagtcggc gacaaattca 480
cggttgccctc gctttcctat atgaccgtcg ttttttcgcg tctgtctgcc gcattttttc 540
tgggcgaaga gcttttctgg caggaaatac tcggtatgtg catcatcatc ctcagcggtg 600
ttttga 606

<210> 540
<211> 201
<212> PRT
<213> Neisseria meningitidis

<400> 540
Gly Thr Gly Ala Met Leu Leu Leu Phe Tyr Ala Val Thr Ile Leu Pro
1 5 10 15
Leu Ala Thr Gly Val Thr Leu Ser Tyr Thr Ser Ser Ile Phe Leu Ala
20 25 30

Val Phe Ser Phe Leu Ile Leu Lys Glu Arg Ile Ser Val Tyr Thr Gln
 35 40 45
 Ala Val Leu Leu Leu Gly Phe Ala Gly Val Val Leu Leu Leu Asn Pro
 50 55 60
 Ser Phe Arg Ser Gly Gln Glu Thr Ala Ala Leu Ala Gly Leu Ala Gly
 65 70 75 80
 Gly Ala Met Ser Gly Trp Ala Tyr Leu Lys Val Arg Glu Leu Ser Leu
 85 90 95
 Ala Gly Glu Pro Gly Trp Arg Val Val Phe Tyr Leu Ser Val Thr Gly
 100 105 110
 Val Ala Met Ser Ser Val Trp Ala Thr Leu Thr Gly Trp His Thr Leu
 115 120 125
 Ser Phe Pro Ser Ala Val Tyr Leu Ser Cys Ile Gly Val Ser Ala Leu
 130 135 140
 Ile Ala Gln Leu Ser Met Thr Arg Ala Tyr Lys Val Gly Asp Lys Phe
 145 150 155 160
 Thr Val Ala Ser Leu Ser Tyr Met Thr Val Val Phe Ser Ala Leu Ser
 165 170 175
 Ala Ala Phe Phe Leu Gly Glu Glu Leu Phe Trp Gln Glu Ile Leu Gly
 180 185 190
 Met Cys Ile Ile Ile Ser Ala Val Phe
 195 200

<210> 541
 <211> 903
 <212> DNA
 <213> Neisseria meningitidis

<400> 541
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 tttaccatta tgaacgtatt gattaaagag gcatcggcaa aatttgccct cggcagcggc 120
 gaattggtct tttggcgcac gctgttttca accgttgccg tcggggctgc cgccgtattg 180
 cgtcgggaca mtttccgcac gccccattgg aaaaaccact taaaccgcag tatggtcggg 240
 acggggggcga tgctgctgct gttttacgcg gtaacgcac tgcccttggc cactggcggt 300
 accctgagtt acacctcgtc gatttttttg gcggtatatt ccttcctgat tttgaaagaa 360
 cggatttccg tttacacgca ggcggtgctg ctcccttggt ttgccggcgt ggtattgctg 420
 cttaatccct cgttccgcag cggtcaggaa acggcggcac tcgccgggct ggccggcggc 480
 gcgatgtccg gctgggcgta tttgaaagt gcggaactgt ctttgccggg cgaaccgggc 540
 tggcgcgctc tgttttacct ttccgtgaca ggtgtggcga tgctgctcgt ttgggcgacg 600
 ctgaccggct ggcacaccct gtcctttcca tcggcagttt atctgtcgtg catcggcgctg 660
 tccgcgctga ttgcccaact gtcgatgacg cgcgcctaca aagtcggcga caaattcacg 720
 gttgcctcgc tttcctatat gaccgtcggt tttccgctc tgtctgccgc attttttctg 780
 ggccaagagc ttttctggca ggaaatactc ggtatgtgca tcatcatcct cagcgggtatt 840
 ttgagcagca tccgccccac tgccttcaaa cagcggctgc aatccctgtt ccgccaaaga 900
 taa 903

<210> 542
<211> 300
<212> PRT
<213> Neisseria meningitidis

<220>
<221> misc_feature
<222> (64)..(64)
<223> Xaa= any amino acid

<400> 542
Met Asp Thr Ala Lys Lys Asp Ile Leu Gly Ser Gly Trp Met Leu Val
1 5 10 15
Ala Ala Ala Cys Phe Thr Ile Met Asn Val Leu Ile Lys Glu Ala Ser
20 25 30
Ala Lys Phe Ala Leu Gly Ser Gly Glu Leu Val Phe Trp Arg Met Leu
35 40 45
Phe Ser Thr Val Ala Leu Gly Ala Ala Ala Val Leu Arg Arg Asp Xaa
50 55 60
Phe Arg Thr Pro His Trp Lys Asn His Leu Asn Arg Ser Met Val Gly
65 70 75 80
Thr Gly Ala Met Leu Leu Leu Phe Tyr Ala Val Thr His Leu Pro Leu
85 90 95
Ala Thr Gly Val Thr Leu Ser Tyr Thr Ser Ser Ile Phe Leu Ala Val
100 105 110
Phe Ser Phe Leu Ile Leu Lys Glu Arg Ile Ser Val Tyr Thr Gln Ala
115 120 125
Val Leu Leu Leu Gly Phe Ala Gly Val Val Leu Leu Leu Asn Pro Ser
130 135 140
Phe Arg Ser Gly Gln Glu Thr Ala Ala Leu Ala Gly Leu Ala Gly Gly
145 150 155 160
Ala Met Ser Gly Trp Ala Tyr Leu Lys Val Arg Glu Leu Ser Leu Ala
165 170 175
Gly Glu Pro Gly Trp Arg Val Val Phe Tyr Leu Ser Val Thr Gly Val
180 185 190
Ala Met Ser Ser Val Trp Ala Thr Leu Thr Gly Trp His Thr Leu Ser
195 200 205
Phe Pro Ser Ala Val Tyr Leu Ser Cys Ile Gly Val Ser Ala Leu Ile
210 215 220
Ala Gln Leu Ser Met Thr Arg Ala Tyr Lys Val Gly Asp Lys Phe Thr
225 230 235 240

Val Ala Ser Leu Ser Tyr Met Thr Val Val Phe Ser Ala Leu Ser Ala
245 250 255

Ala Phe Phe Leu Gly Glu Glu Leu Phe Trp Gln Glu Ile Leu Gly Met
260 265 270

Cys Ile Ile Ile Leu Ser Gly Ile Leu Ser Ser Ile Arg Pro Thr Ala
275 280 285

Phe Lys Gln Arg Leu Gln Ser Leu Phe Arg Gln Arg
290 295 300

<210> 543
<211> 903
<212> DNA
<213> *Neisseria meningitidis*

<400> 543
atggataccg caaaaaaaga catttttagga tcgggctgga tgctgggtggc ggcggcctgc 60
tttaccatta tgaacgtatt gattaaagag gcatcgga aatttgccct cggcagcggc 120
gaattggctct tttggcgcat gctgttttca accgttgccg tcgggggctgc cgcggtattg 180
cgtcgggaca ccttcgcgac gcccatttg aaaaaccact taaaccgcag tatggtcggg 240
acggggggcga tgctgctgct gttttacgcg gtaacgcata tgcctttggc caccggcggt 300
accctgagtt acacctcgtc gatttttttg gcggtatttt ccttcctgat tttgaaagaa 360
cggatttccg tttacacgca ggcggtgctg ctccttggtt ttgcccggct ggtattgctg 420
cttaatccct cgttccgcag cggtcaggaa acggcggcac tcgccgggct ggcggggcggc 480
gcgatgtccg gctgggcgta tttgaaagtgc cgcgaactgt ctttggcggg cgaaccggc 540
tggcgcgtcg tgttttacct ttccgtgaca ggtgtggcga tgtcatcggt ttgggcgacg 600
ctgaccggct ggcacaccct gtcctttcca tcggcagttt atctgtcgtg catcggcggtg 660
tccgcgctga ttgcccaact gtcgatgacg cgcgcctaca aagtcggcga caaattcacg 720
gttgccctcg tttcctatat gaccgtcggt tttccgcgtc tgtctgccgc attttttctg 780
gccgaagagc ttttctggca ggaaatactc ggtatgtgca tcatcatcct cagcgggtatt 840
ttgagcagca tccgccccac tgccttcaaa cagcgggtgc aatccctggt cgcgcaaaga 900
taa 903

<210> 544
<211> 300
<212> PRT
<213> *Neisseria meningitidis*

<400> 544
Met Asp Thr Ala Lys Lys Asp Ile Leu Gly Ser Gly Trp Met Leu Val
1 5 10 15
Ala Ala Ala Cys Phe Thr Ile Met Asn Val Leu Ile Lys Glu Ala Ser
20 25 30
Ala Lys Phe Ala Leu Gly Ser Gly Glu Leu Val Phe Trp Arg Met Leu
35 40 45
Phe Ser Thr Val Ala Leu Gly Ala Ala Ala Val Leu Arg Arg Asp Thr
50 55 60
Phe Arg Thr Pro His Trp Lys Asn His Leu Asn Arg Ser Met Val Gly
65 70 75 80

Thr Gly Ala Met Leu Leu Leu Phe Tyr Ala Val Thr His Leu Pro Leu
 85 90 95
 Ala Thr Gly Val Thr Leu Ser Tyr Thr Ser Ser Ile Phe Leu Ala Val
 100 105 110
 Phe Ser Phe Leu Ile Leu Lys Glu Arg Ile Ser Val Tyr Thr Gln Ala
 115 120 125
 Val Leu Leu Leu Gly Phe Ala Gly Val Val Leu Leu Leu Asn Pro Ser
 130 135 140
 Phe Arg Ser Gly Gln Glu Thr Ala Ala Leu Ala Gly Leu Ala Gly Gly
 145 150 155 160
 Ala Met Ser Gly Trp Ala Tyr Leu Lys Val Arg Glu Leu Ser Leu Ala
 165 170 175
 Gly Glu Pro Gly Trp Arg Val Val Phe Tyr Leu Ser Val Thr Gly Val
 180 185 190
 Ala Met Ser Ser Val Trp Ala Thr Leu Thr Gly Trp His Thr Leu Ser
 195 200 205
 Phe Pro Ser Ala Val Tyr Leu Ser Cys Ile Gly Val Ser Ala Leu Ile
 210 215 220
 Ala Gln Leu Ser Met Thr Arg Ala Tyr Lys Val Gly Asp Lys Phe Thr
 225 230 235 240
 Val Ala Ser Leu Ser Tyr Met Thr Val Val Phe Ser Ala Leu Ser Ala
 245 250 255
 Ala Phe Phe Leu Ala Glu Glu Leu Phe Trp Gln Glu Ile Leu Gly Met
 260 265 270
 Cys Ile Ile Ile Leu Ser Gly Ile Leu Ser Ser Ile Arg Pro Thr Ala
 275 280 285
 Phe Lys Gln Arg Leu Gln Ser Leu Phe Arg Gln Arg
 290 295 300

<210> 545
 <211> 8
 <212> DNA
 <213> *Neisseria gonorrhoeae*

<220>
 <221> misc_feature
 <222> (1)..(8)
 <223> N= Unknown

<400> 545
 nnnnnnnn

<210> 546

<211> 506
<212> PRT
<213> Neisseria gonorrhoeae

<400> 546

Met	Pro	Ser	Glu	Lys	Ala	Phe	Arg	Arg	His	Leu	Arg	Thr	Ala	Ser	Phe
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Gln	Gly	Leu	His	Leu	His	His	Phe	His	Gln	Lys	Val	Gly	Lys	Cys	Gly
			20					25					30		
Ile	Ile	Gly	Phe	Gly	Ile	His	Ile	Phe	Pro	Thr	Leu	Leu	Pro	Ala	Ala
		35					40					45			
Gln	Gly	Ile	Leu	Asp	Ile	Gln	Leu	Gly	Leu	Phe	Arg	Ile	Asp	Phe	Ala
	50					55					60				
Ala	Leu	Ala	Val	Tyr	Arg	Arg	Thr	Gln	Val	Asp	Phe	Ile	His	Thr	Val
65				70					75					80	
Ile	Asp	Gly	Ile	Ala	Ser	Asp	Gln	Ala	Phe	Ser	Glu	Val	Val	Gln	Ile
			85					90						95	
Leu	Arg	Arg	Leu	Asn	Leu	Gly	His	Phe	Thr	Asp	Thr	His	Leu	Ile	Ala
			100					105					110		
Gln	Ala	Arg	Arg	Phe	Ile	Ala	Asp	Phe	Gly	Asn	Ile	Arg	Pro	Met	Arg
	115						120					125			
Arg	Gly	Glu	Ala	Lys	Thr	Phe	Cys	Arg	Cys	Phe	Arg	Phe	Asp	Gly	Ile
	130					135					140				
Asp	Gly	Ile	His	Gly	Asp	Phe	Arg	Gln	Cys	Gly	His	Ile	Asn	Arg	Leu
145				150						155				160	
Ala	Pro	Gly	Lys	Asp	Cys	Arg	Asn	Gly	Lys	Arg	Asp	Lys	Val	Phe	Phe
			165					170					175		
His	Thr	Arg	His	Tyr	Asn	Gln	Val	Cys	Leu	Glu	Lys	Thr	Asn	Cys	Ser
		180						185					190		
Ala	Arg	Lys	Ile	Lys	Phe	Arg	His	Gln	Lys	Gln	Ala	Lys	Thr	His	Ser
	195						200					205			
Thr	Ser	Leu	Ala	Ala	Arg	Phe	Thr	Ile	Arg	Pro	Ser	Leu	Ser	Gln	Arg
	210					215					220				
Pro	Phe	Met	Asp	Thr	Ala	Lys	Lys	Asp	Ile	Leu	Gly	Ser	Gly	Trp	Met
225					230					235				240	
Leu	Val	Ala	Ala	Ala	Cys	Phe	Thr	Val	Met	Asn	Val	Leu	Ile	Lys	Glu
			245					250						255	
Ala	Ser	Ala	Lys	Phe	Ala	Leu	Gly	Ser	Gly	Glu	Leu	Val	Phe	Trp	Arg
		260					265						270		

Met Leu Phe Ser Thr Val Thr Leu Gly Ala Ala Ala Val Leu Arg Arg
 275 280 285
 Asp Thr Phe Arg Thr Pro His Trp Lys Asn His Leu Asn Arg Ser Met
 290 295 300
 Val Gly Thr Gly Ala Met Leu Leu Leu Phe Tyr Ala Val Thr His Leu
 305 310 315 320
 Pro Leu Thr Thr Gly Val Thr Leu Ser Tyr Thr Ser Ser Ile Phe Leu
 325 330 335
 Ala Val Phe Ser Phe Leu Ile Leu Lys Glu Arg Ile Ser Val Tyr Thr
 340 345 350
 Gln Ala Val Leu Leu Leu Gly Phe Ala Gly Val Val Leu Leu Leu Asn
 355 360 365
 Pro Ser Phe Arg Ser Gly Gln Glu Pro Ala Ala Leu Ala Gly Leu Ala
 370 375 380
 Gly Gly Ala Met Ser Gly Trp Ala Tyr Leu Lys Val Arg Glu Leu Ser
 385 390 395 400
 Leu Ala Gly Glu Pro Gly Trp Arg Val Val Phe Tyr Leu Ser Ala Thr
 405 410 415
 Gly Val Ala Met Ser Ser Val Trp Ala Thr Leu Thr Gly Trp His Thr
 420 425 430
 Leu Ser Phe Pro Ser Ala Val Tyr Leu Ser Gly Ile Gly Val Ser Ala
 435 440 445
 Leu Ile Ala Gln Leu Ser Met Thr Arg Ala Tyr Lys Val Gly Asp Lys
 450 455 460
 Phe Thr Val Ala Ser Leu Ser Tyr Met Thr Val Val Phe Ser Ala Leu
 465 470 475 480
 Ser Ala Ala Phe Phe Leu Gly Glu Glu Leu Phe Trp Gln Glu Ile Leu
 485 490 495
 Gly Met Cys Ile Ile Ile Ser Ala Ala Phe
 500 505

<210> 547
 <211> 903
 <212> DNA
 <213> *Neisseria gonorrhoeae*

<400> 547
 atggataccg caaaaaaaga catttttagga tcgggctgga tgctggtggc ggcggcctgc 60
 ttcaccgtta tgaacgtatt gattaaagag gcatcggcaa aatttgccct cggcagcggc 120
 gaattggtct tttggcgcac gctgttttca accgttacgc tcggtgctgc cgccgtattg 180
 cggcgcgaca ccttcgcac gccccattgg aaaaaccact taaaccgcag tatggtcggg 240
 acggggggcga tgctgctgct gttttacgcg gtaacgcac tcgctttgac aaccggcggtt 300

accctgagtt	acacctcgtc	gatttttttg	gcggtatttt	ccttcctgat	tttgaaagaa	360
cggatttccg	tttacacgca	ggcgggtgctg	ctccttggtt	ttgccggcgt	ggtattgctg	420
cttaatccct	cgttccgcag	cggtcaggaa	ccggcggcac	tcgccgggct	ggcgggcggc	480
gcgatgtccg	gctgggcgta	tttgaaagt	cgcgaactgt	ctttggcggg	cgaacccggc	540
tggcgcgtcg	tgttttacct	ttccgcaacc	ggcgtggcga	tgctgctcgt	ttgggcgacg	600
ctgaccggct	ggcacaccct	gtcctttcca	tcggcagttt	atctgtcggg	catcggcgtg	660
tccgcgctga	ttgcccaact	gtcgatgacg	cgcgcctaca	aagtcggcga	caaattcacg	720
gttgccctcg	tttcctatat	gaccgtcgtc	ttttccgccc	tgtctgccgc	attttttctg	780
ggcgaagagc	ttttctggca	ggaaatactc	ggtatgtgca	tcattatcct	cagcggcatt	840
ttgagcagca	tccgccccat	tgctttcaaa	cagcggctgc	aagccctctt	ccgcaaagaa	900
taa						903

<210> 548
 <211> 300
 <212> PRT
 <213> *Neisseria gonorrhoeae*

<400> 548
 Met Asp Thr Ala Lys Lys Asp Ile Leu Gly Ser Gly Trp Met Leu Val
 1 5 10 15
 Ala Ala Ala Cys Phe Thr Val Met Asn Val Leu Ile Lys Glu Ala Ser
 20 25 30
 Ala Lys Phe Ala Leu Gly Ser Gly Glu Leu Val Phe Trp Arg Met Leu
 35 40 45
 Phe Ser Thr Val Thr Leu Gly Ala Ala Ala Val Leu Arg Arg Asp Thr
 50 55 60
 Phe Arg Thr Pro His Trp Lys Asn His Leu Asn Arg Ser Met Val Gly
 65 70 75 80
 Thr Gly Ala Met Leu Leu Leu Phe Tyr Ala Val Thr His Leu Pro Leu
 85 90 95
 Thr Thr Gly Val Thr Leu Ser Tyr Thr Ser Ser Ile Phe Leu Ala Val
 100 105 110
 Phe Ser Phe Leu Ile Leu Lys Glu Arg Ile Ser Val Tyr Thr Gln Ala
 115 120 125
 Val Leu Leu Leu Gly Phe Ala Gly Val Val Leu Leu Leu Asn Pro Ser
 130 135 140
 Phe Arg Ser Gly Gln Glu Pro Ala Ala Leu Ala Gly Leu Ala Gly Gly
 145 150 155 160
 Ala Met Ser Gly Trp Ala Tyr Leu Lys Val Arg Glu Leu Ser Leu Ala
 165 170 175
 Gly Glu Pro Gly Trp Arg Val Val Phe Tyr Leu Ser Ala Thr Gly Val
 180 185 190
 Ala Met Ser Ser Val Trp Ala Thr Leu Thr Gly Trp His Thr Leu Ser
 195 200 205

Phe Pro Ser Ala Val Tyr Leu Ser Gly Ile Gly Val Ser Ala Leu Ile
210 215 220

Ala Gln Leu Ser Met Thr Arg Ala Tyr Lys Val Gly Asp Lys Phe Thr
225 230 235 240

Val Ala Ser Leu Ser Tyr Met Thr Val Val Phe Ser Ala Leu Ser Ala
245 250 255

Ala Phe Phe Leu Gly Glu Glu Leu Phe Trp Gln Glu Ile Leu Gly Met
260 265 270

Cys Ile Ile Ile Leu Ser Gly Ile Leu Ser Ser Ile Arg Pro Ile Ala
275 280 285

Phe Lys Gln Arg Leu Gln Ala Leu Phe Arg Gln Arg
290 295 300

<210> 549
<211> 706
<212> DNA
<213> Neisseria meningitidis

<400> 549
atgaagcggc gtatagccgt cttcgtcctg ttcccgcaga taatccgagt tttgggacaa 60
ctgttgccga aaatcgtaaa tacagttccg gcacatcgga tgctcttcca gattttcggg 120
atgttctttt tcttcataca ccagcaatat ctgcccggga tcgccgaaat cgattcccca 180
tgcggcatcg tgttcgggtgc gctcctcttc cgtcatctgc ccgcgcattg cctgtatggt 240
aaagccgccc taggggatgc cgttgacacac gaacatccag tcgctgatgt cgtcaaccgg 300
aacgcaaacg ctttcgcctt gttcgacatt ggtcagttcg ccsggttcat tgttcagcac 360
accgtaaata taaagaccgt caaaataaat atcgtcgatc cacatatgtt cgcaaatttc 420
gccgtcttcg ccgtcttgga aaaaagggac ttgaccatg gcaaaatcca aggcggaaat 480
aatgcggcgg cgttcccaaa aaagctcgcg ccaaaaatat ttgaatgttt tacgggcgcg 540
ttcgtcggca cggtttaccg gttcgtctgc ctgttctaca taataaatga cggaatcgcc 600
catcatatct gctcctcaac gtgtacggtt tctgtttgca ccttactgcg gctttctgcc 660
kctcgcatcc gattcggatt tgaaaagttc mmrwyattcg gaatag 706

<210> 550
<211> 234
<212> PRT
<213> Neisseria meningitidis

<220>
<221> misc_feature
<222> (115)..(115)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (231)..(232)
<223> Xaa= any amino acid

<400> 550
Met Lys Arg Arg Ile Ala Val Phe Val Leu Phe Pro Gln Ile Ile Arg
1 5 10 15

Val Leu Gly Gln Leu Leu Pro Lys Ile Val Asn Thr Val Pro Ala His
 20 25 30
 Arg Met Leu Phe Gln Ile Phe Gly Met Phe Phe Phe Phe Ile His Gln
 35 40 45
 Gln Tyr Leu Pro Gly Ile Ala Glu Ile Asp Ser Pro Cys Gly Ile Val
 50 55 60
 Phe Gly Ala Leu Leu Phe Arg His Leu Pro Ala His Cys Leu Tyr Gly
 65 70 75 80
 Lys Ala Ala Val Gly Asp Ala Val Ala His Glu His Pro Val Ala Asp
 85 90 95
 Val Val Asn Arg Asn Ala Asn Ala Phe Ala Leu Phe Asp Ile Gly Gln
 100 105 110
 Phe Ala Xaa Phe Ile Val Gln His Thr Val Asn Ile Lys Thr Val Lys
 115 120 125
 Ile Asn Ile Val Asp Pro His Met Phe Ala Asn Phe Ala Val Phe Ala
 130 135 140
 Val Leu Glu Lys Arg Asp Phe Asp His Gly Lys Ile Gln Gly Gly Asn
 145 150 155 160
 Asn Ala Ala Ala Phe Pro Lys Lys Leu Ala Pro Lys Ile Phe Glu Cys
 165 170 175
 Phe Thr Gly Ala Phe Val Gly Thr Val Tyr Arg Phe Val Cys Leu Phe
 180 185 190
 Tyr Ile Ile Asn Asp Gly Ile Ala His His Ser Ala Pro Gln Arg Val
 195 200 205
 Arg Tyr Leu Phe Ala Pro Tyr Cys Gly Phe Leu Pro Ser Ala Ser Asp
 210 215 220
 Ser Asp Leu Lys Ser Ser Xaa Xaa Ser Glu
 225 230

<210> 551
 <211> 708
 <212> DNA
 <213> *Neisseria meningitidis*

<400> 551
 atgatgaagc ggcgtatagc cgtcttcgtc ctgttccccgc agataatccg agttttggga 60
 caactgttgc cgaaaatcgt caatacagtt ccggcacatc ggatgctctt ccagattttc 120
 gggatgttct ttttcttcat acaccagcaa tatctgcccg ggatcgccga aatcgattcc 180
 ccatgcccga tcgtgttcgg tgcgtcctc ttccgtcatc tgcccgcgca ttgcctgtat 240
 ggtaaagccg ccgtagggga tgccgttgca cacgaacatc cagtcgctga tgcgtcaac 300
 cggaacgcaa acgctttcgc cttgttcgac attggtcagt tcgccgggtt cattgttcag 360
 cacaccgtaa atataaagac cgtcaaaata aatatcgtcg atccacatat gttcgcaaat 420
 ttcgccgtct tcgccgtctt ggaaaaaagg gactttgacc atggcaaaat ccaaggcggga 480

aataatgcgg	cggcgttccc	aaaaaagctc	gcgccaaaaa	tatttgaatg	ttttacgggc	540
gcgttcgtcg	gcacgggttta	ccggttcgtc	tgctgttct	acataataaa	tgacggaatc	600
gcccatcatt	ctgctcctca	acgtgtacgg	tatctgttg	caccttactg	cggctttctg	660
ccttcggcat	ccgattcgga	tttgaaaagt	tcctaatatt	cggaatag		708

<210> 552
 <211> 235
 <212> PRT
 <213> Neisseria meningitidis

<400> 552

Met	Met	Lys	Arg	Arg	Ile	Ala	Val	Phe	Val	Leu	Phe	Pro	Gln	Ile	Ile	1	5	10	15
Arg	Val	Leu	Gly	Gln	Leu	Leu	Pro	Lys	Ile	Val	Asn	Thr	Val	Pro	Ala	20	25	30	
His	Arg	Met	Leu	Phe	Gln	Ile	Phe	Gly	Met	Phe	Phe	Phe	Phe	Ile	His	35	40	45	
Gln	Gln	Tyr	Leu	Pro	Gly	Ile	Ala	Glu	Ile	Asp	Ser	Pro	Cys	Gly	Ile	50	55	60	
Val	Phe	Gly	Ala	Leu	Leu	Phe	Arg	His	Leu	Pro	Ala	His	Cys	Leu	Tyr	65	70	75	80
Gly	Lys	Ala	Ala	Val	Gly	Asp	Ala	Val	Ala	His	Glu	His	Pro	Val	Ala	85	90	95	
Asp	Val	Val	Asn	Arg	Asn	Ala	Asn	Ala	Phe	Ala	Leu	Phe	Asp	Ile	Gly	100	105	110	
Gln	Phe	Ala	Gly	Phe	Ile	Val	Gln	His	Thr	Val	Asn	Ile	Lys	Thr	Val	115	120	125	
Lys	Ile	Asn	Ile	Val	Asp	Pro	His	Met	Phe	Ala	Asn	Phe	Ala	Val	Phe	130	135	140	
Ala	Val	Leu	Glu	Lys	Arg	Asp	Phe	Asp	His	Gly	Lys	Ile	Gln	Gly	Gly	145	150	155	160
Asn	Asn	Ala	Ala	Ala	Phe	Pro	Lys	Lys	Leu	Ala	Pro	Lys	Ile	Phe	Glu	165	170	175	
Cys	Phe	Thr	Gly	Ala	Phe	Val	Gly	Thr	Val	Tyr	Arg	Phe	Val	Cys	Leu	180	185	190	
Phe	Tyr	Ile	Ile	Asn	Asp	Gly	Ile	Ala	His	His	Ser	Ala	Pro	Gln	Arg	195	200	205	
Val	Arg	Tyr	Leu	Phe	Ala	Pro	Tyr	Cys	Gly	Phe	Leu	Pro	Ser	Ala	Ser	210	215	220	
Asp	Ser	Asp	Leu	Lys	Ser	Ser	Lys	Tyr	Ser	Glu	225	230	235						

<210> 553
<211> 708
<212> DNA
<213> Neisseria meningitidis

<220>
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<222> (117)..(117)
<223> N= Unknown

<220>
<221> misc_feature
<222> (221)..(221)
<223> N= Unknown

<220>
<221> misc_feature
<222> (427)..(427)
<223> N= Unknown

<220>
<221> misc_feature
<222> (476)..(476)
<223> N= Unknown

<220>
<221> misc_feature
<222> (478)..(479)
<223> N= Unknown

<220>
<221> misc_feature
<222> (481)..(482)
<223> N= Unknown

<400> 553
atgatgaagc ggcgtatagc cgtcttcgtc ctgctcatgc agaaaatccg gattttggga 60
caactgttgc cgaaaatcgt caatacagtt ccggcacatc ggatgctctt ccagatnttc 120
gggatgttct ttttcttcat acaccagcaa tacctgcccg ggatcgccga aatcgattcc 180
ccatgcggca tcgtgttcgg tacgctcttc ttccgtcatc ngtcacgca ttgcctgtat 240
ggtaaagccg ccgtagggaa tgccgttgca cacgaacatc cagtcgctga tgcgtcaac 300
cggaacgcaa acgctttcgc cttgttcgac attggtcagt tcgccgggtt cattgttcag 360
cacgccataa atgtaaagac cgtcaaaaata aatategtcg atccacatat gttcgcaaat 420
ttcgccntct tcgccgtctt ggaaaaaagg gctttgacca tggcaaaatc taaggngnna 480
nngatgcggc ggcgttccca aaaaagctcg cgccaaaaat atttgaatgt tttgcgggcg 540
cgttcgccgg cacggtttac cggtttgtct gcctgttcta cataataaat gacggaatcg 600
cccatcatat ctgctctca acgtgtacgg tatctgtttg caccttactg cggctttctg 660
ccttcggcat ccgattcgga ttgaaaagt tccaaatatt cggaatag 708

<210> 554
<211> 233
<212> PRT
<213> Neisseria meningitidis

<220>
<221> misc_feature

<222> (39)..(39)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (74)..(74)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (143)..(143)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (159)..(161)
<223> Xaa= any amino acid

<400> 554
Met Met Lys Arg Arg Ile Ala Val Phe Val Leu Leu Met Gln Lys Ile
1 5 10 15
Arg Ile Leu Gly Gln Leu Leu Pro Lys Ile Val Asn Thr Val Pro Ala
20 25 30
His Arg Met Leu Phe Gln Xaa Phe Gly Met Phe Phe Phe Phe Ile His
35 40 45
Gln Gln Tyr Leu Pro Gly Ile Ala Glu Ile Asp Ser Pro Cys Gly Ile
50 55 60
Val Phe Gly Thr Leu Leu Phe Arg His Xaa Ser Thr His Cys Leu Tyr
65 70 75 80
Gly Lys Ala Ala Val Gly Asn Ala Val Ala His Glu His Pro Val Ala
85 90 95
Asp Val Val Asn Arg Asn Ala Asn Ala Phe Ala Leu Phe Asp Ile Gly
100 105 110
Gln Phe Ala Gly Phe Ile Val Gln His Ala Ile Asn Val Lys Thr Val
115 120 125
Lys Ile Asn Ile Val Asp Pro His Met Phe Ala Asn Phe Ala Xaa Phe
130 135 140
Ala Val Leu Glu Lys Arg Ala Leu Thr Met Ala Lys Ser Lys Xaa Xaa
145 150 155 160
Xaa Met Arg Arg Arg Ser Gln Lys Ser Ser Arg Gln Lys Tyr Leu Asn
165 170 175
Val Leu Arg Ala Arg Ser Pro Ala Arg Phe Thr Gly Leu Ser Ala Cys
180 185 190
Ser Thr Met Thr Glu Ser Pro Ile Ile Ser Ala Pro Gln Arg Val Arg

195

200

205

Tyr Leu Phe Ala Pro Tyr Cys Gly Phe Leu Pro Ser Ala Ser Asp Ser
 210 215 220

Asp Leu Lys Ser Ser Lys Tyr Ser Glu
 225 230

<210> 555
 <211> 708
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 555
 atgatgaagc ggcgatatagc cgtcttcgctc ctgctcatgc agaaaatccg gattttggga 60
 caactggttc cgaaaatcgt caatacagtt ccggcacatc ggatgctctt ccaaattttc 120
 gggatgttct ttttcttcat acaccggcaa tacctgcccg ggatcgccga aatcgattcc 180
 ccaggcggta tcgtgttcgg tacgctcctc ttccgctatc tgtccgcgca ttgcctgtac 240
 ggtaaagccg ccgtagggga tgccgttgca cacgaacatc cagtcgctga tgcgccaac 300
 cggaacgcaa acgctttcgc cttgttcgac attggtcagt ccgccgggtt cattgttcag 360
 cacaccgtaa atataaagac cgtcaaaata aatatcgctc atccacatat gttcgcaaat 420
 ttccgcgtct tcgcgctctt ggaaaaaagg gactttgacc atggcaaaat ccaaggcgga 480
 aataatgcgg cggcggtccc aaaaaagctc gcgccaaaag tatttgaatg ttttacgggc 540
 gcgttcgccg gcacgggtta ccggttcgctc tgccgtgtct acataataaa tgacggaatc 600
 gcccatcata ctgctcctca acgtgtacgg tatctgtttg caccctaccg cggttttcta 660
 cctccggcat ccgattcgga ttgaaaagt tccaaatatt cggaatag 708

<210> 556
 <211> 235
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 556
 Met Met Lys Arg Arg Ile Ala Val Phe Val Leu Leu Met Gln Lys Ile
 1 5 10 15
 Arg Ile Leu Gly Gln Leu Leu Pro Lys Ile Val Asn Thr Val Pro Ala
 20 25 30
 His Arg Met Leu Phe Gln Ile Phe Gly Met Phe Phe Phe Phe Ile His
 35 40 45
 Arg Gln Tyr Leu Pro Gly Ile Ala Glu Ile Asp Ser Pro Gly Gly Ile
 50 55 60
 Val Phe Gly Thr Leu Leu Phe Arg His Leu Ser Ala His Cys Leu Tyr
 65 70 75 80
 Gly Lys Ala Ala Val Gly Asp Ala Val Ala His Glu His Pro Val Ala
 85 90 95
 Asp Val Ala Asn Arg Asn Ala Asn Ala Phe Ala Leu Phe Asp Ile Gly
 100 105 110
 Gln Ser Ala Gly Phe Ile Val Gln His Thr Val Asn Ile Lys Thr Val
 115 120 125

Lys Ile Asn Ile Val Asp Pro His Met Phe Ala Asn Phe Ala Val Phe
130 135 140

Ala Val Leu Glu Lys Arg Asp Phe Asp His Gly Lys Ile Gln Gly Gly
145 150 155 160

Asn Asn Ala Ala Ala Phe Pro Lys Lys Leu Ala Pro Lys Val Phe Glu
165 170 175

Cys Phe Thr Gly Ala Phe Ala Gly Thr Val Tyr Arg Phe Val Cys Leu
180 185 190

Phe Tyr Ile Ile Asn Asp Gly Ile Ala His His Thr Ala Pro Gln Arg
195 200 205

Val Arg Tyr Leu Phe Ala Pro Tyr Arg Gly Phe Leu Pro Pro Ala Ser
210 215 220

Asp Ser Asp Leu Lys Ser Ser Lys Tyr Ser Glu
225 230 235

<210> 557

<211> 446

<212> DNA

<213> Neisseria meningitidis

<400> 557

atggaaaata	tggtaacgtt	ttcaaaaatc	agaccgcttt	tggcaatcgc	cgccgccgcg	60
ttgcttgccg	cctgcggacg	gcgggaaata	atgctgtccg	caagccggtg	caaaccgcca	120
aaccgcgcgc	agtggtcggt	ttggcactcg	gtggcggcgc	atctaaagga	tttgcccatg	180
taggtattat	taaggttttg	aaagaaaacg	gtattcctgt	gaaggtgggt	accggcacct	240
ccgcaggttc	gattgtcggc	aacctttttg	catcggggat	gtcgcccgcg	cgccctcgat	300
tggaagccga	aatttttaggc	aaaaccgatt	tggtcgattt	aaccttggtc	accaatgggt	360
ttatcaaagg	cgcaaagctg	caaaattaca	tcaaccgaaa	actccgcggc	atgcagattc	420
agcagtttcc	catcaaattt	gccgcc				446

<210> 558

<211> 149

<212> PRT

<213> Neisseria meningitidis

<220>

<221> misc_feature

<222> (25)..(25)

<223> Xaa= any amino acid

<400> 558

Met Glu Asn Met Val Thr Phe Ser Lys Ile Arg Pro Leu Leu Ala Ile
1 5 10 15

Ala Ala Ala Ala Leu Leu Ala Ala Xaa Arg Thr Ala Gly Asn Asn Ala
20 25 30

Val Arg Lys Pro Val Gln Thr Ala Lys Pro Ala Ala Val Val Gly Leu
35 40 45

Ala Leu Gly Gly Gly Ala Ser Lys Gly Phe Ala His Val Gly Ile Ile
50 55 60

Lys Val Leu Lys Glu Asn Gly Ile Pro Val Lys Val Val Thr Gly Thr
65 70 75 80

Ser Ala Gly Ser Ile Val Gly Asn Leu Phe Ala Ser Gly Met Ser Pro
85 90 95

Asp Arg Leu Glu Leu Glu Ala Glu Ile Leu Gly Lys Thr Asp Leu Val
100 105 110

Asp Leu Thr Leu Ser Thr Asn Gly Phe Ile Lys Gly Ala Lys Leu Gln
115 120 125

Asn Tyr Ile Asn Arg Lys Leu Arg Gly Met Gln Ile Gln Gln Phe Pro
130 135 140

Ile Lys Phe Ala Ala
145

<210> 559
<211> 903
<212> DNA
<213> Neisseria meningitidis

<400> 559
atggaaaata tggtaacgtt ttcaaaaatc agaccgcttt tggcaatcgc cgccgccgcg 60
ttgcttgccg cctgcggcac ggcgggaaat aatgctgtcc gcaagccggt gcaaaccgcc 120
aaacccgccg cagtggtcgg tttggcactc ggtggcggcg catctaaagg atttgcccat 180
gtaggatttta ttaaggtttt gaaagaaaac ggtattcctg tgaagggtgt taccggcaca 240
tcggcagggt cgattgtcgg cagccttttt gcatcgggta tgcgcgccga ccgcctcgaa 300
ttggaagccg aaatttttag caaaaccgat ttggtcgatt taacctgttc caccagtggg 360
ttatcaaaag gcgaaaagct gcaaaattac atcaaccgaa aagtcggcgg caggcagatt 420
cagcagtttc ccatcaaatt tgccgccgtt gctactgatt ttgaaaccgg caaggccgtc 480
gctttcaatc aggggaatgc cgggcaggct gtgcgcgctt ccgccgccat tcccaatgtg 540
ttccaaccgc ttatcatcgg caggcataca tatgttgacg gcggtctgtc gcagcccggtg 600
cccgtcagtg ccgcccggcg gcagggggcg aatttcgtga ttgccgtcga tatttccgcc 660
cgtccgggca aaaacatcag ccaaggtttc ttctcttatt tcgatcagac gctgaacgta 720
atgagcggtt ctgcgttgca aaatgagttg gggcaggcgg atgtggttat caaacgcgag 780
gttttggatt tgggtgcagt cggcggattc gatcagaaaa aacgcgccat ccggttgggt 840
gaggaggcag cacgtgccgc attgcctgaa atcaaacgca aactggcggc ataccgttat 900
tga 903

<210> 560
<211> 300
<212> PRT
<213> Neisseria meningitidis

<400> 560
Met Glu Asn Met Val Thr Phe Ser Lys Ile Arg Pro Leu Leu Ala Ile
1 5 10 15
Ala Ala Ala Ala Leu Leu Ala Ala Cys Gly Thr Ala Gly Asn Asn Ala
20 25 30

Val Arg Lys Pro Val Gln Thr Ala Lys Pro Ala Ala Val Val Gly Leu
 35 40 45
 Ala Leu Gly Gly Gly Ala Ser Lys Gly Phe Ala His Val Gly Ile Ile
 50 55 60
 Lys Val Leu Lys Glu Asn Gly Ile Pro Val Lys Val Val Thr Gly Thr
 65 70 75 80
 Ser Ala Gly Ser Ile Val Gly Ser Leu Phe Ala Ser Gly Met Ser Pro
 85 90 95
 Asp Arg Leu Glu Leu Glu Ala Glu Ile Leu Gly Lys Thr Asp Leu Val
 100 105 110
 Asp Leu Thr Leu Ser Thr Ser Gly Phe Ile Lys Gly Glu Lys Leu Gln
 115 120 125
 Asn Tyr Ile Asn Arg Lys Val Gly Gly Arg Gln Ile Gln Gln Phe Pro
 130 135 140
 Ile Lys Phe Ala Ala Val Ala Thr Asp Phe Glu Thr Gly Lys Ala Val
 145 150 155 160
 Ala Phe Asn Gln Gly Asn Ala Gly Gln Ala Val Arg Ala Ser Ala Ala
 165 170 175
 Ile Pro Asn Val Phe Gln Pro Val Ile Ile Gly Arg His Thr Tyr Val
 180 185 190
 Asp Gly Gly Leu Ser Gln Pro Val Pro Val Ser Ala Ala Arg Arg Gln
 195 200 205
 Gly Ala Asn Phe Val Ile Ala Val Asp Ile Ser Ala Arg Pro Gly Lys
 210 215 220
 Asn Ile Ser Gln Gly Phe Phe Ser Tyr Leu Asp Gln Thr Leu Asn Val
 225 230 235 240
 Met Ser Val Ser Ala Leu Gln Asn Glu Leu Gly Gln Ala Asp Val Val
 245 250 255
 Ile Lys Pro Gln Val Leu Asp Leu Gly Ala Val Gly Gly Phe Asp Gln
 260 265 270
 Lys Lys Arg Ala Ile Arg Leu Gly Glu Glu Ala Ala Arg Ala Ala Leu
 275 280 285
 Pro Glu Ile Lys Arg Lys Leu Ala Ala Tyr Arg Tyr
 290 295 300

<210> 561
 <211> 903
 <212> DNA
 <213> *Neisseria meningitidis*

<220>
 <221> misc_feature
 <222> (624)..(624)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (626)..(629)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (631)..(631)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (634)..(634)
 <223> Xaa= any amino acid

<400> 561
 atggaaaata tggtaacggt ttcaaaaatc agaccgcttt tggcaatcgc cgccgccgcg 60
 ttgcttgccg cctgcggcac ggcgggaaat aatgctgccc gcaagccggt gcaaaccgcc 120
 aaacccgccg cagtggctcg tttggcactc ggtggcggcg catctaaagg atttgcccat 180
 gtaggtatta ttaaggtttt gaaagaaaac ggtattcctg tgaaggtggt taccggcaca 240
 tcggcaggtt cgatagtcgg cagccttttt gcatcgggta tgtcgcccga ccgcctcgaa 300
 ttggaagccg aaatttttag taaaaccgat ttggtcgatt taaccttgct caccagtggg 360
 tttatcaaag gcgaaaagct gcaaaattac atcaaccgaa aagtcggcgg caggcggatt 420
 cagcagtttc ccatacaatt tgccgccggt gctactgatt ttgaaaccgg caaggccgtc 480
 gctttcaatc aagggaatgc cgggcagggt gtgcgcgctt ccgccgccat tccaatgtg 540
 ttccaacccg ttatcatcgg caggcataca tatgttgacg gcggtctgtc gcagcccgtg 600
 cccgtcagtg ccgcccggcg gcangnnnng natntcgtga ttgccgtcga tatttccgcc 660
 cgtccgagca aaaacatcag ccaaggcttc ttctcttata tcgatcagac gctgaacgta 720
 atgagcggtt ccgcgttgca aaatgagttg gggcaggcgg atgtgggttat caaacgcgag 780
 gttttggatt tgggtgcagt cggcggattc gatcagaaaa aacgcgccat ccggttgggt 840
 gaggaggcag cacgtgccgc attgcctgaa atcaaacgca aactggcggc ataccgttat 900
 tga 903

<210> 562
 <211> 300
 <212> PRT
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (208)..(212)
 <223> Xaa= any amino acid

<400> 562
 Met Glu Asn Met Val Thr Phe Ser Lys Ile Arg Pro Leu Leu Ala Ile
 1 5 10 15
 Ala Ala Ala Ala Leu Leu Ala Ala Cys Gly Thr Ala Gly Asn Asn Ala
 20 25 30
 Ala Arg Lys Pro Val Gln Thr Ala Lys Pro Ala Ala Val Val Gly Leu

35					40					45					
Ala	Leu	Gly	Gly	Gly	Ala	Ser	Lys	Gly	Phe	Ala	His	Val	Gly	Ile	Ile
50					55					60					
Lys	Val	Leu	Lys	Glu	Asn	Gly	Ile	Pro	Val	Lys	Val	Val	Thr	Gly	Thr
65					70					75					80
Ser	Ala	Gly	Ser	Ile	Val	Gly	Ser	Leu	Phe	Ala	Ser	Gly	Met	Ser	Pro
				85					90					95	
Asp	Arg	Leu	Glu	Leu	Glu	Ala	Glu	Ile	Leu	Gly	Lys	Thr	Asp	Leu	Val
			100					105					110		
Asp	Leu	Thr	Leu	Ser	Thr	Ser	Gly	Phe	Ile	Lys	Gly	Glu	Lys	Leu	Gln
		115					120					125			
Asn	Tyr	Ile	Asn	Arg	Lys	Val	Gly	Gly	Arg	Arg	Ile	Gln	Gln	Phe	Pro
	130					135					140				
Ile	Lys	Phe	Ala	Ala	Val	Ala	Thr	Asp	Phe	Glu	Thr	Gly	Lys	Ala	Val
145				150					155					160	
Ala	Phe	Asn	Gln	Gly	Asn	Ala	Gly	Gln	Ala	Val	Arg	Ala	Ser	Ala	Ala
			165					170						175	
Ile	Pro	Asn	Val	Phe	Gln	Pro	Val	Ile	Ile	Gly	Arg	His	Thr	Tyr	Val
		180						185					190		
Asp	Gly	Gly	Leu	Ser	Gln	Pro	Val	Pro	Val	Ser	Ala	Ala	Arg	Arg	Xaa
	195					200					205				
Xaa	Xaa	Xaa	Xaa	Val	Ile	Ala	Val	Asp	Ile	Ser	Ala	Arg	Pro	Ser	Lys
210						215					220				
Asn	Ile	Ser	Gln	Gly	Phe	Phe	Ser	Tyr	Leu	Asp	Gln	Thr	Leu	Asn	Val
225				230					235					240	
Met	Ser	Val	Ser	Ala	Leu	Gln	Asn	Glu	Leu	Gly	Gln	Ala	Asp	Val	Val
				245				250						255	
Ile	Lys	Pro	Gln	Val	Leu	Asp	Leu	Gly	Ala	Val	Gly	Gly	Phe	Asp	Gln
			260					265					270		
Lys	Lys	Arg	Ala	Ile	Arg	Leu	Gly	Glu	Glu	Ala	Ala	Arg	Ala	Ala	Leu
		275					280					285			
Pro	Glu	Ile	Lys	Arg	Lys	Leu	Ala	Ala	Tyr	Arg	Tyr				
	290					295					300				

<210> 563
 <211> 903
 <212> DNA
 <213> *Neisseria gonorrhoeae*
 <400> 563

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ttgcttgccg	cctgcggtac	ggcgggaaac	aatgccgccc	gcaagccggt	gcaaaccgcc	120
aaaccgccg	cagtggtcgc	tttggcactc	ggtggcggcg	catctaaagg	atttgcccat	180
ataggaattg	ttaaggtttt	gaaagaaaac	ggtattcctg	tgaagggtgt	taccggcaca	240
tcggcagggt	cgatagtcgg	cagccttttg	gcacgaggta	tgctgcccga	ccgcctcgaa	300
ttggaagccg	agatttttagg	taaaaaccgat	ttagtcgatt	taaccttgtc	caccagtggg	360
tttatcaaag	gcgaaaagct	gcaaaattac	atcaaccgaa	aagtcggcgg	caggcagatt	420
cagcagtttc	ccatcaaatt	tgccgccggt	gccactgatt	ttgaaaccgg	caaggccgtc	480
gctttcaatc	aaggggaatgc	cgggcaggcg	gttcgtgctt	ccgccgccat	tcccaatgtg	540
ttccagccag	tcatcatcgg	caggcacaaa	tatgttgacg	gcggtctgtc	gcagcccggt	600
cccgtcagtg	ccgctcggcg	gcagggggcg	aatttcgtga	ttgccgtcga	tatttcgcga	660
cgtccgagca	aaaatgtcgg	tcaaggtttc	ttctcttata	tcgatcagac	gctgaacgtg	720
atgagcgttt	ccgtgttgca	aaacgagttg	gggcaggcgg	atgtggttat	caaaccgcag	780
gttttggatt	tgggtgcagt	cggcggattc	gatcagaaaa	agcgcgccat	ccggttgggc	840
gaggaggcag	cacgtgccgc	attgcctgaa	atcaaacgca	aactggcggc	ataccgttat	900
tga						903

<210> 564
 <211> 300
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 564
 Met Glu Asn Met Val Thr Phe Ser Lys Ile Arg Ser Phe Leu Ala Ile
 1 5 10 15
 Ala Ala Ala Ala Leu Leu Ala Ala Cys Gly Thr Ala Gly Asn Asn Ala
 20 25 30
 Ala Arg Lys Pro Val Gln Thr Ala Lys Pro Ala Ala Val Val Ala Leu
 35 40 45
 Ala Leu Gly Gly Gly Ala Ser Lys Gly Phe Ala His Ile Gly Ile Val
 50 55 60
 Lys Val Leu Lys Glu Asn Gly Ile Pro Val Lys Val Val Thr Gly Thr
 65 70 75 80
 Ser Ala Gly Ser Ile Val Gly Ser Leu Leu Ala Ser Gly Met Ser Pro
 85 90 95
 Asp Arg Leu Glu Leu Glu Ala Glu Ile Leu Gly Lys Thr Asp Leu Val
 100 105 110
 Asp Leu Thr Leu Ser Thr Ser Gly Phe Ile Lys Gly Glu Lys Leu Gln
 115 120 125
 Asn Tyr Ile Asn Arg Lys Val Gly Gly Arg Gln Ile Gln Gln Phe Pro
 130 135 140
 Ile Lys Phe Ala Ala Val Ala Thr Asp Phe Glu Thr Gly Lys Ala Val
 145 150 155 160
 Ala Phe Asn Gln Gly Asn Ala Gly Gln Ala Val Arg Ala Ser Ala Ala
 165 170 175

Ile Pro Asn Val Phe Gln Pro Val Ile Ile Gly Arg His Lys Tyr Val
 180 185 190
 Asp Gly Gly Leu Ser Gln Pro Val Pro Val Ser Ala Ala Arg Arg Gln
 195 200 205
 Gly Ala Asn Phe Val Ile Ala Val Asp Ile Ser Ala Arg Pro Ser Lys
 210 215 220
 Asn Val Gly Gln Gly Phe Phe Ser Tyr Leu Asp Gln Thr Leu Asn Val
 225 230 235 240
 Met Ser Val Ser Val Leu Gln Asn Glu Leu Gly Gln Ala Asp Val Val
 245 250 255
 Ile Lys Pro Gln Val Leu Asp Leu Gly Ala Val Gly Gly Phe Asp Gln
 260 265 270
 Lys Lys Arg Ala Ile Arg Leu Gly Glu Glu Ala Ala Arg Ala Ala Leu
 275 280 285
 Pro Glu Ile Lys Arg Lys Leu Ala Ala Tyr Arg Tyr
 290 295 300

<210> 565
 <211> 369
 <212> DNA
 <213> Neisseria meningitidis

<400> 565
 atgtttcgtt tacaattcag gctgtttccc cctttgcgaa ccgccatgca catcctgttg 60
 accgcctgc tcaaatgcct ctccctgctg ccgctttcct gtctgcacac gctgggaaac 120
 cggctcggac atctggcggt ttacctttta aaggaagacc gcgcgcgcgc catcgccmat 180
 atgcggcagg cgggtttgaa ccccgacccc aaaacgggtca aagccgtttt tgcggaaacg 240
 gcaaaaggcg gtttggaact tgcccccgcg tttttcagaa aaccggaaga catagaaaca 300
 atgttcaaag cgggtacacg ctgggaacat gtgcagcagg ctttggacaa acacgaaggg 360
 ctgctattc 369

<210> 566
 <211> 123
 <212> PRT
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (60)..(60)
 <223> Xaa= any amino acid

<400> 566
 Met Phe Arg Leu Gln Phe Arg Leu Phe Pro Pro Leu Arg Thr Ala Met
 1 5 10 15
 His Ile Leu Leu Thr Ala Leu Leu Lys Cys Leu Ser Leu Leu Pro Leu
 20 25 30
 Ser Cys Leu His Thr Leu Gly Asn Arg Leu Gly His Leu Ala Phe Tyr

35

40

45

Leu Leu Lys Glu Asp Arg Ala Arg Ile Val Ala Xaa Met Arg Gln Ala
50 55 60

Gly Leu Asn Pro Asp Pro Lys Thr Val Lys Ala Val Phe Ala Glu Thr
65 70 75 80

Ala Lys Gly Gly Leu Glu Leu Ala Pro Ala Phe Phe Arg Lys Pro Glu
85 90 95

Asp Ile Glu Thr Met Phe Lys Ala Val His Gly Trp Glu His Val Gln
100 105 110

Gln Ala Leu Asp Lys His Glu Gly Leu Leu Phe
115 120

<210> 567

<211> 897

<212> DNA

<213> Neisseria meningitidis

<400> 567

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cggctcggac	atctggcgtt	ttacctttta	aaggaagacc	gcgcgcgcat	cgtcgccaat	180
atgcggcagg	cgggtttgaa	ccccgacccc	aaaacgggtca	aagccgtttt	tgcggaaacg	240
gcaaaaggcg	gtttggaact	tgcccccgcg	tttttcagaa	aaccggaaga	catagaaaca	300
atgttcaaag	cgggtacacg	ctgggaacat	gtgcagcagg	ctttggacaa	acacgaagg	360
ctgctattca	tcacgccgca	catcggcagc	tacgatttgg	gcggacgcta	catcagccag	420
cagcttccgt	tcccgcgtgac	cgccatgtac	aaaccgccga	aatcaaagc	gatagacaaa	480
atcatgcagg	cgggcagggt	tcgcggcaaa	ggaaaaaccg	cgcctaccag	catacaagg	540
gtcaaacaaa	tcatcaaagc	cctgcgttcg	ggcgaagcaa	ccatcgtcct	gcccggaccac	600
gtcccctccc	ctcaagaagg	cggggaaggc	gtatgggttg	atttcttcgg	caaacctgcc	660
tataccatga	cgctggcggc	aaaattggca	cacgtcaaag	gcgtgaaaac	cctgtttttc	720
tgctgcgaac	gcctgcctgg	cggacaagg	ttcgatttgc	acatccgccc	cgtccaagg	780
gaattgaacg	gcgacaaagc	ccatgatgcc	gccgtgttca	accgcaatgc	cgaatattgg	840
atacgccgtt	ttccgacgca	gtatctgttt	atgtacaacc	gctacaaaat	gccgtaa	897

<210> 568

<211> 298

<212> PRT

<213> Neisseria meningitidis

<400> 568

Met Phe Arg Leu Gln Phe Arg Leu Phe Pro Pro Leu Arg Thr Ala Met
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His Ile Leu Leu Thr Ala Leu Leu Lys Cys Leu Ser Leu Leu Pro Leu
20 25 30

Ser Cys Leu His Thr Leu Gly Asn Arg Leu Gly His Leu Ala Phe Tyr
35 40 45

Leu Leu Lys Glu Asp Arg Ala Arg Ile Val Ala Asn Met Arg Gln Ala
50 55 60

Gly Leu Asn Pro Asp Pro Lys Thr Val Lys Ala Val Phe Ala Glu Thr
 65 70 75 80
 Ala Lys Gly Gly Leu Glu Leu Ala Pro Ala Phe Phe Arg Lys Pro Glu
 85 90 95
 Asp Ile Glu Thr Met Phe Lys Ala Val His Gly Trp Glu His Val Gln
 100 105 110
 Gln Ala Leu Asp Lys His Glu Gly Leu Leu Phe Ile Thr Pro His Ile
 115 120 125
 Gly Ser Tyr Asp Leu Gly Gly Arg Tyr Ile Ser Gln Gln Leu Pro Phe
 130 135 140
 Pro Leu Thr Ala Met Tyr Lys Pro Pro Lys Ile Lys Ala Ile Asp Lys
 145 150 155 160
 Ile Met Gln Ala Gly Arg Val Arg Gly Lys Gly Lys Thr Ala Pro Thr
 165 170 175
 Ser Ile Gln Gly Val Lys Gln Ile Ile Lys Ala Leu Arg Ser Gly Glu
 180 185 190
 Ala Thr Ile Val Leu Pro Asp His Val Pro Ser Pro Gln Glu Gly Gly
 195 200 205
 Glu Gly Val Trp Val Asp Phe Phe Gly Lys Pro Ala Tyr Thr Met Thr
 210 215 220
 Leu Ala Ala Lys Leu Ala His Val Lys Gly Val Lys Thr Leu Phe Phe
 225 230 235 240
 Cys Cys Glu Arg Leu Pro Gly Gly Gln Gly Phe Asp Leu His Ile Arg
 245 250 255
 Pro Val Gln Gly Glu Leu Asn Gly Asp Lys Ala His Asp Ala Ala Val
 260 265 270
 Phe Asn Arg Asn Ala Glu Tyr Trp Ile Arg Arg Phe Pro Thr Gln Tyr
 275 280 285
 Leu Phe Met Tyr Asn Arg Tyr Lys Met Pro
 290 295

<210> 569
 <211> 897
 <212> DNA
 <213> Neisseria meningitidis

<400> 569
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 cggctcggac atctggcggt ttacctttta aaggaagacc gcgcgcgcac cgtcgccaat 180
 atgcgtcagg caggcatgaa tcccgaacccc aaaacggtca aagccgtttt tgcggaaacg 240
 gcaaaaggcg gtttggaact tgcccccgcg tttttcagaa aaccggaaga catagaaaca 300

atgttcaaag	cggtacacgg	ctgggaacat	gtgcagcagg	ctttggacaa	acacgaaggg	360
ctgctattca	tcacgccgca	catcggcagc	tacgatttgg	gcggacgcta	catcagccag	420
cagcttccgt	tcccgtgtac	cgccatgtac	aaaccgccga	aaatcaaagc	gatagacaaa	480
atcatgcagg	cgggcagggt	tcgcggcaaa	ggaaaaaccg	cgcctaccag	catacaaggg	540
gtcaaacaaa	tcatcaaagc	cctgcgttcg	ggcgaagcaa	ccatcgtcct	gcccgaaccac	600
gtccccctcc	ctcaagaagg	cggggaaggc	gtatgggtgg	atttcttcgg	caaacctgcc	660
tataccatga	cgtctggcggc	aaaattggca	cacgtcaaag	gcgtgaaaac	cctgtttttc	720
tgctgcgaac	gcctgcctgg	cggacaaggt	ttcgatttgc	acatccgccc	cgtccaaggg	780
gaattgaacg	gcgacaaagc	ccatgatgcc	gccgtgttca	accgcaatgc	cgaatattgg	840
atacgccgtt	ttccgacgca	gtatctgttt	atgtacaacc	gctacaaaaat	gccgtaa	897

<210> 570

<211> 298

<212> PRT

<213> Neisseria meningitidis

<400> 570

Met	Phe	Arg	Leu	Gln	Phe	Arg	Leu	Phe	Pro	Pro	Leu	Arg	Thr	Ala	Met
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His	Ile	Leu	Leu	Thr	Ala	Leu	Leu	Lys	Cys	Leu	Ser	Leu	Leu	Pro	Leu
		20						25					30		
Ser	Cys	Leu	His	Thr	Leu	Gly	Asn	Arg	Leu	Gly	His	Leu	Ala	Phe	Tyr
	35						40					45			
Leu	Leu	Lys	Glu	Asp	Arg	Ala	Arg	Ile	Val	Ala	Asn	Met	Arg	Gln	Ala
	50					55					60				
Gly	Leu	Asn	Pro	Asp	Pro	Lys	Thr	Val	Lys	Ala	Val	Phe	Ala	Glu	Thr
65				70					75					80	
Ala	Lys	Gly	Gly	Leu	Glu	Leu	Ala	Pro	Ala	Phe	Phe	Arg	Lys	Pro	Glu
			85					90						95	
Asp	Ile	Glu	Thr	Met	Phe	Lys	Ala	Val	His	Gly	Trp	Glu	His	Val	Gln
		100					105						110		
Gln	Ala	Leu	Asp	Lys	His	Glu	Gly	Leu	Leu	Phe	Ile	Thr	Pro	His	Ile
	115						120					125			
Gly	Ser	Tyr	Asp	Leu	Gly	Gly	Arg	Tyr	Ile	Ser	Gln	Gln	Leu	Pro	Phe
	130					135					140				
Pro	Leu	Thr	Ala	Met	Tyr	Lys	Pro	Pro	Lys	Ile	Lys	Ala	Ile	Asp	Lys
145					150					155				160	
Ile	Met	Gln	Ala	Gly	Arg	Val	Arg	Gly	Lys	Gly	Lys	Thr	Ala	Pro	Thr
			165					170						175	
Ser	Ile	Gln	Gly	Val	Lys	Gln	Ile	Ile	Lys	Ala	Leu	Arg	Ser	Gly	Glu
		180					185						190		
Ala	Thr	Ile	Val	Leu	Pro	Asp	His	Val	Pro	Ser	Pro	Gln	Glu	Gly	Gly
		195					200						205		

Glu Gly Val Trp Val Asp Phe Phe Gly Lys Pro Ala Tyr Thr Met Thr
 210 215 220
 Leu Ala Ala Lys Leu Ala His Val Lys Gly Val Lys Thr Leu Phe Phe
 225 230 235 240
 Cys Cys Glu Arg Leu Pro Gly Gly Gln Gly Phe Asp Leu His Ile Arg
 245 250 255
 Pro Val Gln Gly Glu Leu Asn Gly Asp Lys Ala His Asp Ala Ala Val
 260 265 270
 Phe Asn Arg Asn Ala Glu Tyr Trp Ile Arg Arg Phe Pro Thr Gln Tyr
 275 280 285
 Leu Phe Met Tyr Asn Arg Tyr Lys Met Pro
 290 295

<210> 571
 <211> 894
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 571
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 accgccctgc tcaaattgct ctccctgctg tcgctttcct gtctgcacac gctgggaaac 120
 cggctcggac atctggcggt ttacctttta aaggaagacc gcgcgcgcgc catcgccaat 180
 atgcggcagg cgggtttgaa ccccgacacg cagacggtca aagccgtttt tgcggaaacg 240
 gcaaaatgcg gtttggaact tgcccccgcg tttttcaaaa aaccggaaga catcgaaaca 300
 atgttcaaag cggtaacacg ctgggaacac gtgcagcagg ctttggaaca gggcgaaggg 360
 ctgctgttca tcacgccgca catcggcagc tacgatttgg gcggacgcta catcagccag 420
 cagcttcctg tccacctgac cgccatgtac aagccgccga aaatcaaagc gatagacaaa 480
 atcatgcagg cgggcagggt gcgcggcaaa ggcaaaaaccg cgcccaccgg catacaaggg 540
 gtcaaacaaa tcatcaaggc cctgcgcgcg ggcgaggcaa ccatcctcct gcccgaccac 600
 gtcccttctc cgcaggaagg cggcggcgtg tgggcggatt ttttcggcaa acctgcatac 660
 accatgacac tggcggaaca attggcacac gtcaaaggcg tgaaaaccct gtttttctgc 720
 tgcgaaacgc tgcccgacgg acaaggcttc gtgttgacac tccgccccgt ccaaggggaa 780
 ttgaacggca acaaagccca cgatgccgcc gtgttcaacc gcaataccga atattggata 840
 cgccgttttc cgacgcagta tctgtttatg tacaaccgct ataaaacgcc gtaa 894

<210> 572
 <211> 297
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 572
 Met Phe Arg Leu Gln Phe Arg Leu Phe Pro Pro Leu Arg Thr Ala Met
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 His Ile Leu Leu Thr Ala Leu Leu Lys Cys Leu Ser Leu Leu Ser Leu
 20 25 30
 Ser Cys Leu His Thr Leu Gly Asn Arg Leu Gly His Leu Ala Phe Tyr
 35 40 45
 Leu Leu Lys Glu Asp Arg Ala Arg Ile Val Ala Asn Met Arg Gln Ala

50	55	60
Gly Leu Asn Pro Asp Thr Gln Thr Val Lys Ala Val Phe Ala Glu Thr 65 70 75 80		
Ala Lys Cys Gly Leu Glu Leu Ala Pro Ala Phe Phe Lys Lys Pro Glu 85 90 95		
Asp Ile Glu Thr Met Phe Lys Ala Val His Gly Trp Glu His Val Gln 100 105 110		
Gln Ala Leu Asp Lys Gly Glu Gly Leu Leu Phe Ile Thr Pro His Ile 115 120 125		
Gly Ser Tyr Asp Leu Gly Gly Arg Tyr Ile Ser Gln Gln Leu Pro Phe 130 135 140		
His Leu Thr Ala Met Tyr Lys Pro Pro Lys Ile Lys Ala Ile Asp Lys 145 150 155 160		
Ile Met Gln Ala Gly Arg Val Arg Gly Lys Gly Lys Thr Ala Pro Thr 165 170 175		
Gly Ile Gln Gly Val Lys Gln Ile Ile Lys Ala Leu Arg Ala Gly Glu 180 185 190		
Ala Thr Ile Ile Leu Pro Asp His Val Pro Ser Pro Gln Glu Gly Gly 195 200 205		
Gly Val Trp Ala Asp Phe Phe Gly Lys Pro Ala Tyr Thr Met Thr Leu 210 215 220		
Ala Ala Lys Leu Ala His Val Lys Gly Val Lys Thr Leu Phe Phe Cys 225 230 235 240		
Cys Glu Arg Leu Pro Asp Gly Gln Gly Phe Val Leu His Ile Arg Pro 245 250 255		
Val Gln Gly Glu Leu Asn Gly Asn Lys Ala His Asp Ala Ala Val Phe 260 265 270		
Asn Arg Asn Thr Glu Tyr Trp Ile Arg Arg Phe Pro Thr Gln Tyr Leu 275 280 285		
Phe Met Tyr Asn Arg Tyr Lys Thr Pro 290 295		

<210> 573

<211> 567

<212> DNA

<213> Neisseria meningitidis

<400> 573

gcgtgggtcgg ccggcgaatc gtggcgtgtg ttaatggaaa gtgaaacgtg gcatgcggtg	60
tggaataactt tgcgcttctc ggcggcggcg gtgtatgcgg cagcggtttt gggtgtggtg	120
tatgcggcgc cggcgcggcg gtcggcgtgg atgcgcgggc tgatgtttta gccgtttatg	180

gtgtcgccgg	tttgtgtttc	ggcgggcggtg	ctgctgcttt	atccgcagtg	gacgggcttcg	240
ttgccgttgc	tgctggcgat	gtatgcgctg	ctggcgatc	cgtttgtggc	aaaagatggt	300
ttatcagcct	gggatgcact	gccgccggat	tacggcagg	cgccggcggg	tttgggtgca	360
aacggctttc	agacggcatg	ccgcatcacg	ttccccctct	tgaaaccggc	gttgccggcg	420
ggtctgactt	tggcgggcgc	aacctgcgtg	ggcgaatttg	cgccgacatt	gtttctgtcg	480
cgtccggaat	ggcagacgct	gacgactttg	atttatgcct	atttgggacg	cgccgggtgag	540
gataattacg	cgccggcgat	ggtgctg				567

<210> 574
 <211> 189
 <212> PRT
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (57)..(57)
 <223> Xaa= any amino acid

<400> 574

Ala	Trp	Ser	Ala	Gly	Glu	Ser	Trp	Arg	Val	Leu	Met	Glu	Ser	Glu	Thr
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Trp	His	Ala	Val	Trp	Asn	Thr	Leu	Arg	Phe	Ser	Ala	Ala	Ala	Val	Tyr
			20					25						30	
Ala	Ala	Ala	Val	Leu	Gly	Val	Val	Tyr	Ala	Ala	Pro	Ala	Arg	Arg	Ser
			35				40					45			
Ala	Trp	Met	Arg	Gly	Leu	Met	Phe	Xaa	Pro	Phe	Met	Val	Ser	Pro	Val
	50					55					60				
Cys	Val	Ser	Ala	Gly	Val	Leu	Leu	Leu	Tyr	Pro	Gln	Trp	Thr	Ala	Ser
65					70				75					80	
Leu	Pro	Leu	Leu	Leu	Ala	Met	Tyr	Ala	Leu	Leu	Ala	Tyr	Pro	Phe	Val
				85					90					95	
Ala	Lys	Asp	Val	Leu	Ser	Ala	Trp	Asp	Ala	Leu	Pro	Pro	Asp	Tyr	Gly
			100					105						110	
Arg	Ala	Ala	Ala	Gly	Leu	Gly	Ala	Asn	Gly	Phe	Gln	Thr	Ala	Cys	Arg
			115				120					125			
Ile	Thr	Phe	Pro	Leu	Leu	Lys	Pro	Ala	Leu	Arg	Arg	Gly	Leu	Thr	Leu
	130					135						140			
Ala	Ala	Ala	Thr	Cys	Val	Gly	Glu	Phe	Ala	Ala	Thr	Leu	Phe	Leu	Ser
145					150					155				160	
Arg	Pro	Glu	Trp	Gln	Thr	Leu	Thr	Thr	Leu	Ile	Tyr	Ala	Tyr	Leu	Gly
				165					170					175	
Arg	Ala	Gly	Glu	Asp	Asn	Tyr	Ala	Arg	Ala	Met	Val	Leu			
			180					185							

<210> 575

<211> 1542
 <212> DNA
 <213> Neisseria meningitidis

<400> 575
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 gcggtgctgt cggatgccta tatgctcaaa cgtttggcgt ggacgggtatt tcaggcagcg 180
 gcaacctgtg tgctggtgct gcctttgggc gtgcctgtcg cgtgggtgct ggcgcggctg 240
 gcgtttcccg ggcgggcttt ggtgctgcgc ctgctgatgc tgctttttgt gatgccacg 300
 ttggtggcgg gcgtgggctg gctggccctg ttcggggcgg acgggctggt gtggcgcggc 360
 aggcaggata cgcggtatct gttgtgttac ggcaatgtgt ttttcaacct tcctgtgttg 420
 gtcaggggcg cgtatcaggg gttgtgcaa gtgcctgcgg cacggcttca gacggcacgg 480
 acgttgggcg cgggggcgtg gcggcgggtt tgggacattg aaatgcccg tttgcgcccg 540
 tggttgcccg gcggcgtgtg ccttgtcttt ctgtattgtt tttccgggtt cgggctggcg 600
 ctgctgctgg gcggcagccg ttatgccacg gtcgaagtgg aaatttacca gttggtcatg 660
 ttcgaactcg atatggcggg tgcttcgggt ctggtgtggc tgggtgttgg ggtaacggcg 720
 gcggcagggt tgctgtatgc gtggttcggc aggcgcgcgg tttcggataa ggcggtttcc 780
 cctgtgatgc cgtgcgcgcc gcagtcggtc ggggaatatg tgctgctggc gtttgcgcg 840
 gcggtgttgt ctgtgtgtcg cctgtttcct ttgttgcaa ttgttgtgaa agcgtggtcg 900
 gccggcgaat cgtggcgtgt gttaatggaa agtgaaacgt ggcaggcggt gtggaatact 960
 ttgcgcttct cggcggcggc ggtgtatgcg gcggcgggtt tgggtgtggt gtatgcggcg 1020
 gcggcgcggc ggtcggcgtg gatgcgcggg ctgatgtttt tgccgtttat ggtgtcgcgg 1080
 gtttgtgttt cggcgggctg gctgctgctt tatccgcagt ggacggcttc gttgccgttg 1140
 ctgctggcga tgtatgcgct gctggcgtat ccgtttgttg caaaagatgt tttatcagcc 1200
 tgggatgcac tgccgcggga ttacggcagg gcggcggcgg gtttgggtgc aaacggcttt 1260
 cagacggcat gccgcacac gtccccctc ttgaaaccgg cgttgcgcg cggtctgact 1320
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 <211> 513
 <212> PRT
 <213> Neisseria meningitidis

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 35 40 45
 Leu Lys Arg Leu Ala Trp Thr Val Phe Gln Ala Ala Ala Thr Cys Val
 50 55 60
 Leu Val Leu Pro Leu Gly Val Pro Val Ala Trp Val Leu Ala Arg Leu
 65 70 75 80
 Ala Phe Pro Gly Arg Ala Leu Val Leu Arg Leu Leu Met Leu Pro Phe
 85 90 95

Val	Met	Pro	Thr	Leu	Val	Ala	Gly	Val	Gly	Val	Leu	Ala	Leu	Phe	Gly	100	105	110
Ala	Asp	Gly	Leu	Leu	Trp	Arg	Gly	Arg	Gln	Asp	Thr	Pro	Tyr	Leu	Leu	115	120	125
Leu	Tyr	Gly	Asn	Val	Phe	Phe	Asn	Leu	Pro	Val	Leu	Val	Arg	Ala	Ala	130	135	140
Tyr	Gln	Gly	Phe	Val	Gln	Val	Pro	Ala	Ala	Arg	Leu	Gln	Thr	Ala	Arg	145	150	155
Thr	Leu	Gly	Ala	Gly	Ala	Trp	Arg	Arg	Phe	Trp	Asp	Ile	Glu	Met	Pro	165	170	175
Val	Leu	Arg	Pro	Trp	Leu	Ala	Gly	Gly	Val	Cys	Leu	Val	Phe	Leu	Tyr	180	185	190
Cys	Phe	Ser	Gly	Phe	Gly	Leu	Ala	Leu	Leu	Leu	Gly	Gly	Ser	Arg	Tyr	195	200	205
Ala	Thr	Val	Glu	Val	Glu	Ile	Tyr	Gln	Leu	Val	Met	Phe	Glu	Leu	Asp	210	215	220
Met	Ala	Val	Ala	Ser	Val	Leu	Val	Trp	Leu	Val	Leu	Gly	Val	Thr	Ala	225	230	235
Ala	Ala	Gly	Leu	Leu	Tyr	Ala	Trp	Phe	Gly	Arg	Arg	Ala	Val	Ser	Asp	245	250	255
Lys	Ala	Val	Ser	Pro	Val	Met	Pro	Ser	Pro	Pro	Gln	Ser	Val	Gly	Glu	260	265	270
Tyr	Val	Leu	Leu	Ala	Phe	Ala	Ala	Ala	Val	Leu	Ser	Val	Cys	Cys	Leu	275	280	285
Phe	Pro	Leu	Leu	Ala	Ile	Val	Val	Lys	Ala	Trp	Ser	Ala	Gly	Glu	Ser	290	295	300
Trp	Arg	Val	Leu	Met	Glu	Ser	Glu	Thr	Trp	Gln	Ala	Val	Trp	Asn	Thr	305	310	315
Leu	Arg	Phe	Ser	Ala	Ala	Ala	Val	Tyr	Ala	Ala	Ala	Val	Leu	Gly	Val	325	330	335
Val	Tyr	Ala	Ala	Ala	Ala	Arg	Arg	Ser	Ala	Trp	Met	Arg	Gly	Leu	Met	340	345	350
Phe	Leu	Pro	Phe	Met	Val	Ser	Pro	Val	Cys	Val	Ser	Ala	Gly	Val	Leu	355	360	365
Leu	Leu	Tyr	Pro	Gln	Trp	Thr	Ala	Ser	Leu	Pro	Leu	Leu	Leu	Ala	Met	370	375	380
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gtttgtgttt	cggcgggcgt	gctgctgctt	natccgcagt	ggacggcttc	gttgccgctg	1140
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<212> PRT

<213> *Neisseria meningitidis*

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Ala Tyr Asp Gly Leu Ala Trp Arg Ala Val Leu Ser Asp Ala Tyr Met	35	40	45
Leu Lys Arg Leu Ala Trp Thr Val Phe Gln Ala Ala Ala Thr Cys Val	50	55	60
Leu Val Leu Pro Leu Gly Val Pro Val Ala Trp Val Leu Ala Arg Leu	65	70	75
Ala Phe Pro Gly Arg Ala Leu Val Leu Arg Leu Leu Met Leu Pro Phe	85	90	95
Val Met Pro Thr Leu Val Ala Gly Val Gly Val Leu Ala Leu Phe Gly	100	105	110
Ala Asp Gly Leu Xaa Trp Arg Gly Trp Gln Asp Thr Pro Tyr Leu Leu	115	120	125
Leu Tyr Gly Asn Val Phe Phe Xaa Leu Pro Val Leu Val Arg Ala Ala	130	135	140
Tyr Gln Gly Phe Val Gln Val Pro Ala Ala Arg Leu Gln Thr Ala Xaa	145	150	155
Thr Leu Gly Ala Gly Ala Trp Arg Arg Phe Trp Asp Ile Glu Met Pro	165	170	175
Val Leu Arg Pro Trp Leu Ala Gly Gly Val Cys Leu Val Phe Leu Tyr	180	185	190
Cys Phe Ser Gly Phe Gly Leu Ala Leu Leu Leu Gly Gly Ser Arg Tyr	195	200	205
Ala Thr Val Glu Val Glu Ile Tyr Gln Leu Val Met Phe Glu Leu Asp	210	215	220
Met Ala Val Ala Ser Val Leu Val Trp Leu Val Xaa Gly Val Thr Ala	225	230	235
Ala Ala Gly Leu Leu Tyr Ala Trp Phe Gly Arg Arg Ala Val Ser Asp	245	250	255
Lys Ala Val Ser Pro Val Met Pro Ser Pro Pro Gln Ser Val Gly Glu	260	265	270
Tyr Val Leu Leu Ala Phe Ala Ala Val Xaa Ser Val Cys Cys Leu	275	280	285
Phe Xaa Leu Leu Ala Ile Val Val Lys Ala Trp Ser Ala Gly Glu Ser	290	295	300

Trp	Arg	Val	Leu	Met	Glu	Ser	Glu	Thr	Trp	Gln	Ala	Val	Trp	Asn	Thr	305	310	315	320
Xaa	Arg	Phe	Ser	Ala	Ala	Ala	Val	Tyr	Ala	Ala	Ala	Val	Leu	Gly	Val	325	330	335	
Val	Tyr	Ala	Ala	Ala	Ala	Arg	Arg	Ser	Ala	Trp	Met	Arg	Gly	Leu	Met	340	345	350	
Phe	Leu	Pro	Phe	Met	Val	Ser	Pro	Val	Cys	Val	Ser	Ala	Gly	Val	Leu	355	360	365	
Leu	Leu	Xaa	Pro	Gln	Trp	Thr	Ala	Ser	Leu	Pro	Leu	Leu	Leu	Ala	Met	370	375	380	
Tyr	Ala	Leu	Leu	Ala	Tyr	Pro	Phe	Val	Ala	Lys	Asp	Val	Leu	Ser	Ala	385	390	395	400
Xaa	Asp	Ala	Leu	Pro	Pro	Asp	Tyr	Gly	Arg	Ala	Ala	Ala	Gly	Leu	Gly	405	410	415	
Ala	Asn	Gly	Phe	Gln	Thr	Ala	Cys	Arg	Ile	Thr	Phe	Pro	Leu	Leu	Lys	420	425	430	
Pro	Ala	Leu	Arg	Arg	Gly	Leu	Thr	Leu	Ala	Ala	Ala	Thr	Cys	Val	Gly	435	440	445	
Glu	Phe	Ala	Ala	Thr	Leu	Phe	Xaa	Ser	Arg	Xaa	Glu	Trp	Gln	Thr	Leu	450	455	460	
Thr	Thr	Leu	Ile	Tyr	Ala	Tyr	Xaa	Gly	Arg	Ala	Gly	Xaa	Asp	Asn	Tyr	465	470	475	480
Ala	Arg	Ala	Met	Val	Leu	Thr	Leu	Leu	Leu	Ala	Ala	Phe	Ala	Leu	Gly	485	490	495	
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Leu

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 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

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<211> 513
<212> PRT
<213> Neisseria gonorrhoeae

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Ala Tyr Asp Gly Leu Ala Trp Arg Ala Val Leu Ser Asp Ala Tyr Met
35 40 45
Leu Lys Arg Leu Ala Trp Thr Val Phe Gln Ala Ala Thr Cys Val
50 55 60
Leu Val Leu Pro Leu Gly Val Pro Val Ala Trp Val Leu Ala Arg Leu
65 70 75 80
Ala Phe Pro Gly Arg Ala Leu Val Leu Arg Leu Leu Met Leu Pro Phe
85 90 95
Val Met Pro Thr Leu Val Ala Gly Val Gly Val Leu Ala Leu Phe Gly
100 105 110
Ala Asp Gly Leu Leu Trp Arg Gly Arg Gln Asp Thr Pro Tyr Leu Leu
115 120 125
Leu Tyr Gly Asn Val Phe Phe Asn Leu Pro Val Leu Val Arg Ala Ala
130 135 140
Tyr Gln Gly Phe Ala Gln Val Pro Ala Ala Arg Leu Gln Thr Ala Arg
145 150 155 160
Thr Leu Gly Ala Gly Ala Trp Arg Pro Phe Trp Asp Ile Glu Met Pro
165 170 175
Val Leu Arg Pro Trp Leu Ala Gly Gly Val Cys Leu Val Phe Leu Tyr
180 185 190
Cys Phe Ser Gly Phe Gly Leu Ala Leu Leu Leu Gly Gly Ser Arg Tyr
195 200 205
Ala Thr Val Glu Val Glu Ile Tyr Gln Leu Val Met Phe Glu Leu Asp
210 215 220
Met Ala Gly Ala Ser Ala Leu Val Trp Leu Val Leu Gly Val Thr Ala
225 230 235 240
Ala Ala Gly Leu Leu Tyr Ala Trp Phe Gly Arg Arg Ala Val Ser Asp
245 250 255
Lys Ala Val Ser Pro Val Met Pro Ser Pro Pro Gln Ser Val Gly Glu
260 265 270

Tyr Val Leu Leu Ala Phe Ser Val Ala Val Leu Ser Val Cys Cys Leu
 275 280 285
 Phe Pro Leu Ser Ala Ile Val Val Lys Ala Trp Ser Ala Gly Glu Ser
 290 295 300
 Arg Arg Val Leu Met Glu Ser Glu Thr Trp Gln Ala Val Trp Asn Thr
 305 310 315 320
 Leu Arg Phe Ser Ala Ala Ala Val Phe Ala Ala Ala Val Leu Gly Val
 325 330 335
 Val Tyr Ala Ala Ala Ala Arg Arg Leu Val Trp Met Arg Gly Leu Val
 340 345 350
 Phe Leu Pro Phe Met Val Ser Pro Val Cys Val Ser Ala Gly Val Leu
 355 360 365
 Leu Leu Tyr Pro Gly Trp Thr Ala Ser Leu Pro Leu Leu Leu Ala Met
 370 375 380
 Tyr Ala Leu Leu Ala Tyr Pro Phe Val Ala Lys Asp Val Leu Ser Ala
 385 390 395 400
 Trp Asp Ala Leu Pro Pro Asp Tyr Gly Arg Ala Ala Ala Gly Leu Gly
 405 410 415
 Ala Asn Gly Phe Gln Thr Ala Cys Arg Ile Thr Phe Pro Leu Leu Lys
 420 425 430
 Pro Ala Leu Arg Arg Gly Leu Thr Leu Ala Ala Ala Thr Cys Val Gly
 435 440 445
 Glu Phe Ala Ala Thr Leu Phe Leu Ser Arg Pro Glu Trp Gln Thr Leu
 450 455 460
 Thr Thr Leu Ile Tyr Ala Tyr Leu Gly Arg Ala Gly Glu Asp Asn Tyr
 465 470 475 480
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 Ile Phe Leu Leu Leu Asp Asn Gly Glu Gly Gly Lys Arg Thr Glu Thr
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Leu

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 <212> DNA
 <213> *Neisseria gonorrhoeae*

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acgttggggc	cgggggcgtg	gcggcggttt	tgggacattg	aaatgcccgt	tttgcgcccc	540
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<211> 513

<212> PRT

<213> Neisseria gonorrhoeae

<400> 582

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			20					25					30			
Ala	Tyr	Asp	Gly	Leu	Ala	Trp	Arg	Ala	Val	Leu	Ser	Asp	Ala	Tyr	Met	
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	50					55					60					
Leu	Val	Leu	Pro	Leu	Gly	Val	Pro	Val	Ala	Trp	Val	Leu	Ala	Arg	Leu	
65					70					75				80		
Ala	Phe	Pro	Gly	Arg	Ala	Leu	Val	Leu	Arg	Leu	Leu	Met	Leu	Pro	Phe	
				85					90					95		
Val	Met	Pro	Thr	Leu	Val	Ala	Gly	Val	Gly	Val	Leu	Ala	Leu	Phe	Gly	
			100					105					110			
Ala	Asp	Gly	Leu	Leu	Trp	Arg	Gly	Arg	Gln	Asp	Thr	Pro	Tyr	Leu	Leu	
		115					120					125				
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Thr Leu Gly Ala Gly Ala Trp Arg Arg Phe Trp Asp Ile Glu Met Pro 165 170 175		
Val Leu Arg Pro Trp Leu Ala Gly Gly Val Cys Leu Val Phe Leu Tyr 180 185 190		
Cys Phe Ser Gly Phe Gly Leu Ala Leu Leu Leu Gly Gly Ser Arg Tyr 195 200 205		
Ala Thr Val Glu Val Glu Ile Tyr Gln Leu Val Met Phe Glu Leu Asp 210 215 220		
Met Ala Gly Ala Ser Ala Leu Val Trp Leu Val Leu Gly Val Thr Ala 225 230 235 240		
Ala Ala Gly Leu Leu Tyr Ala Trp Phe Gly Arg Arg Ala Val Ser Asp 245 250 255		
Lys Ala Val Ser Pro Val Met Pro Ser Pro Pro Gln Ser Val Gly Glu 260 265 270		
Tyr Val Leu Leu Ala Phe Ser Val Ala Val Leu Ser Val Cys Cys Leu 275 280 285		
Phe Pro Leu Ser Ala Ile Val Val Lys Ala Trp Ser Ala Gly Glu Ser 290 295 300		
Arg Arg Val Leu Met Glu Ser Glu Thr Trp Gln Ala Val Trp Asn Thr 305 310 315 320		
Leu Arg Phe Ser Ala Ala Ala Val Phe Ala Ala Ala Val Leu Gly Val 325 330 335		
Val Tyr Ala Ala Ala Ala Arg Arg Leu Val Trp Met Arg Gly Leu Val 340 345 350		
Phe Leu Pro Phe Met Val Ser Pro Val Cys Val Ser Ala Gly Val Leu 355 360 365		
Leu Leu Tyr Pro Gly Trp Thr Ala Ser Leu Pro Leu Leu Leu Ala Met 370 375 380		
Tyr Ala Leu Leu Ala Tyr Pro Phe Val Ala Lys Asp Val Leu Ser Ala 385 390 395 400		
Trp Asp Ala Leu Pro Pro Asp Tyr Gly Arg Ala Ala Ala Gly Leu Gly 405 410 415		
Ala Asn Gly Phe Gln Thr Ala Cys Arg Ile Thr Phe Pro Leu Leu Lys 420 425 430		

Pro Ala Leu Arg Arg Gly Leu Thr Leu Ala Ala Ala Thr Cys Val Gly
435 440 445

Glu Phe Ala Ala Thr Leu Phe Leu Ser Arg Pro Glu Trp Gln Thr Leu
450 455 460

Thr Thr Leu Ile Tyr Ala Tyr Leu Gly Arg Ala Gly Glu Asp Asn Tyr
465 470 475 480

Ala Arg Ala Met Val Leu Thr Leu Leu Leu Ser Ala Phe Ala Val Cys
485 490 495

Ile Phe Leu Leu Leu Asp Asn Gly Glu Gly Gly Lys Arg Thr Glu Thr
500 505 510

Leu

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<211> 261
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<213> Neisseria meningitidis

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<210> 584
<211> 87
<212> PRT
<213> Neisseria meningitidis

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Ile His Ala Leu Leu Thr Leu Val Ile Val Ser Leu Leu Thr Ala Leu
35 40 45
Ala Thr Gly Leu Pro Thr Gly Ser Ile Val Lys Asp Ile Leu Val Lys
50 55 60
Asn Phe Gly Gly Thr Leu Gly Gly Val Ala Leu Leu Val Gly Leu Gly
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Ala Met Leu Glu Arg Leu Val
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<210> 585
<211> 1386

<212> DNA

<213> *Neisseria meningitidis*

<400> 585

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atcgtcagcc tgctgacggc tttggcaacc ggtttgccca caggcagcat tgtcaacgac      180
atactggtca aaaacttcgg cggcacgctc ggcggcgtgg cgcttctggt cggcctgggc      240
gcgatgctcg gacgtttggt cgaaacatcc ggcggcgcac agtcgctggc ggacgcgctg      300
atccggatgt tcggcgaaaa acgcgcaccg ttccgctggt gcgttgcttc gctgattttc      360
ggcttcccga ttttcttcga tgccggacta atcgatgc tgcccatcgt gttcgccacc      420
gcacggcgca tgaaacagga cgtactgccc ttccgcttg cctccatcgg cgcattttcc      480
gtcatgcacg tcttctgccc gccccatccg ggcccgattg ccgcttccga attttacggc      540
gcgaacatcg gccaaagttt gattttgggt ctgccgaccg ccttcatcac atggattttc      600
agcggtata tgctcggaag agtggtgggg cgcaccatcc atgttcccgt tcccgaactg      660
ctcagcgggc gcacgcaaga caacgacctg ccgaaagaac ctgccaaagc aggaacggtc      720
gtcgccatca tgctgattcc catgctgctg attttccctga ataccggcgt atcgccctc      780
atcagcgaaa aactcgtaag tgccgacgaa acctgggttc agacggcaaa aataatcggt      840
tcgacaccga tcgccttctt gatttccgta ttggtcgac tgtttgtctt gggacgcaaa      900
cgcggcgaaa gcggcagcgc gttggaaaaa accgtggacg gcgcactcgc cccgctctgt      960
tccgtgattc tgattaccgg cgcgggcggg atgttcggcg gcgttttgcg cgcttccggc     1020
atcggaagg cactgcgcca cagcatggcg gatttgggca ttcccgctct tttgggctgt     1080
ttccttgctg ccttggaact gcgtatcgcg caaggttcgg caaccgtcgc cctgaccacc     1140
gccgcgcgc tgatggctcc tgccgttgcc gccgcggct ttaccgactg gcagctcgcc     1200
tgtatcgtat tggcaacggc ggcaggttcg gtcggttgca gccacttcaa cgactccggc     1260
ttctggctgg tcggcgtct cttggacatg gacgtaccga ccacgtgaa aacctggacg     1320
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<210> 586

<211> 461

<212> PRT

<213> *Neisseria meningitidis*

<400> 586

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Ser Ala Ala Ala Ile Ile Leu Ile Leu Ile Leu Ile Val Lys Phe Arg
20        25        30

Ile His Ala Leu Leu Thr Leu Val Ile Val Ser Leu Leu Thr Ala Leu
35        40        45

Ala Thr Gly Leu Pro Thr Gly Ser Ile Val Asn Asp Ile Leu Val Lys
50        55        60

Asn Phe Gly Gly Thr Leu Gly Gly Val Ala Leu Leu Val Gly Leu Gly
65        70        75        80

Ala Met Leu Gly Arg Leu Val Glu Thr Ser Gly Gly Ala Gln Ser Leu
85        90        95

Ala Asp Ala Leu Ile Arg Met Phe Gly Glu Lys Arg Ala Pro Phe Ala
100       105       110
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Leu Gly Val Ala Ser Leu Ile Phe Gly Phe Pro Ile Phe Phe Asp Ala
 115 120 125
 Gly Leu Ile Val Met Leu Pro Ile Val Phe Ala Thr Ala Arg Arg Met
 130 135 140
 Lys Gln Asp Val Leu Pro Phe Ala Leu Ala Ser Ile Gly Ala Phe Ser
 145 150 155 160
 Val Met His Val Phe Leu Pro Pro His Pro Gly Pro Ile Ala Ala Ser
 165 170 175
 Glu Phe Tyr Gly Ala Asn Ile Gly Gln Val Leu Ile Leu Gly Leu Pro
 180 185 190
 Thr Ala Phe Ile Thr Trp Tyr Phe Ser Gly Tyr Met Leu Gly Lys Val
 195 200 205
 Leu Gly Arg Thr Ile His Val Pro Val Pro Glu Leu Leu Ser Gly Gly
 210 215 220
 Thr Gln Asp Asn Asp Leu Pro Lys Glu Pro Ala Lys Ala Gly Thr Val
 225 230 235 240
 Val Ala Ile Met Leu Ile Pro Met Leu Leu Ile Phe Leu Asn Thr Gly
 245 250 255
 Val Ser Ala Leu Ile Ser Glu Lys Leu Val Ser Ala Asp Glu Thr Trp
 260 265 270
 Val Gln Thr Ala Lys Ile Ile Gly Ser Thr Pro Ile Ala Leu Leu Ile
 275 280 285
 Ser Val Leu Val Ala Leu Phe Val Leu Gly Arg Lys Arg Gly Glu Ser
 290 295 300
 Gly Ser Ala Leu Glu Lys Thr Val Asp Gly Ala Leu Ala Pro Val Cys
 305 310 315 320
 Ser Val Ile Leu Ile Thr Gly Ala Gly Gly Met Phe Gly Gly Val Leu
 325 330 335
 Arg Ala Ser Gly Ile Gly Lys Ala Leu Ala Asp Ser Met Ala Asp Leu
 340 345 350
 Gly Ile Pro Val Leu Leu Gly Cys Phe Leu Val Ala Leu Ala Leu Arg
 355 360 365
 Ile Ala Gln Gly Ser Ala Thr Val Ala Leu Thr Thr Ala Ala Ala Leu
 370 375 380
 Met Ala Pro Ala Val Ala Ala Ala Gly Phe Thr Asp Trp Gln Leu Ala
 385 390 395 400
 Cys Ile Val Leu Ala Thr Ala Ala Gly Ser Val Gly Cys Ser His Phe
 405 410 415

Asn Asp Ser Gly Phe Trp Leu Val Gly Arg Leu Leu Asp Met Asp Val
 420 425 430

Pro Thr Thr Leu Lys Thr Trp Thr Val Asn Gln Thr Leu Ile Ala Leu
 435 440 445

Ile Gly Phe Ala Leu Ser Ala Leu Leu Phe Ala Ile Val
 450 455 460

<210> 587
 <211> 1386
 <212> DNA
 <213> Neisseria meningitidis

<400> 587
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 atcgtcagcc tgctgacggc tttggcaacc gggttgccca caggcagcat tgtcaacgac 180
 gtactgggtca aaaacttcgg cggcacgctc ggcggcgctg cgcttctggt cggcctgggc 240
 gcgatgctcg gacgtttggt cgaaacatcc ttccgctggc agtcgctggc ggacgcgctg 300
 atccggatgt tccggcgaaaa acgcgcaccg ttccgctggc gcgttgctc gctgattttc 360
 ggcttcccga ttttcttcga tgcgggacta atcgtcatgc tgcccatcgt gttcggccacc 420
 gcacggcgca tgaaacagga cgtactgcc ttccgcttg cctccatcgg cgcatttttc 480
 gtcatgcacg tcttctgcc gcccatccg ggcccgattg ccgcttcga attttacggc 540
 gcgaacatcg gccaaagttt gattttgggt ctgccgaccg ccttcacac atggtatttc 600
 agcggctata tgctcgcaa agtggtgggg cgcaccatcc atgttcccg tcccgaactg 660
 ctccagggcg gcacgcaaga caacgacctg ccgaaagaac ctgcccagc aggaacggtc 720
 gtcgccatca tgetgattcc catgctgtg attttcctga ataccggcgt atcggccctc 780
 atcagcgaaa aactcgtaag tgcggacgaa acctgggttc agacggcaaa aataatcgg 840
 tcgacaccga tcgcccttct gattttcgtg ttggtgcac tgtttgtctt gggacgcaaa 900
 cgcggcgaaa gcggcagcgc gttggaaaaa accgtggacg gcgcactcgc ccccgctctg 960
 tccgtgattc tgattaccgg cgcgggcggt atgttcggcg gcgttttgcg cgcttcgggc 1020
 atcggcaagg cactcgccga cagcatggcg gatttgggca ttcccgctct tttgggctgt 1080
 ttcttctgct ccttggcact gcgtatcgcg caaggttcgg caaccgtcgc cctgaccacc 1140
 gccgcgcgc tgatggctcc tgcggttgc gccgcgggt ttaccgactg gcagctcgcc 1200
 tgtatcgatc tggcaacggc ggcaggttc gtcggttgca gccacttcaa cgactccggc 1260
 ttctggctgg tcggcgccct cttggacatg gacgtaccga ccacgtgaa aacctggacg 1320
 gtcaaccaaa cctcatcgc actcatcggc tttgccttgt ccgcactgct gttcggccatc 1380
 gtctga 1386

<210> 588
 <211> 461
 <212> PRT
 <213> Neisseria meningitidis

<400> 588
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 Ser Ala Ala Ala Ile Ile Leu Ile Leu Ile Leu Ile Val Lys Phe Arg
 20 25 30
 Ile His Ala Leu Leu Thr Leu Val Ile Val Ser Leu Leu Thr Ala Leu
 35 40 45
 Ala Thr Gly Leu Pro Thr Gly Ser Ile Val Asn Asp Val Leu Val Lys

50	55	60
Asn Phe Gly Gly Thr Leu Gly Gly Val Ala Leu Leu Val Gly Leu Gly 65 70 75 80		
Ala Met Leu Gly Arg Leu Val Glu Thr Ser Gly Gly Ala Gln Ser Leu 85 90 95		
Ala Asp Ala Leu Ile Arg Met Phe Gly Glu Lys Arg Ala Pro Phe Ala 100 105 110		
Leu Gly Val Ala Ser Leu Ile Phe Gly Phe Pro Ile Phe Phe Asp Ala 115 120 125		
Gly Leu Ile Val Met Leu Pro Ile Val Phe Ala Thr Ala Arg Arg Met 130 135 140		
Lys Gln Asp Val Leu Pro Phe Ala Leu Ala Ser Ile Gly Ala Phe Ser 145 150 155 160		
Val Met His Val Phe Leu Pro Pro His Pro Gly Pro Ile Ala Ala Ser 165 170 175		
Glu Phe Tyr Gly Ala Asn Ile Gly Gln Val Leu Ile Leu Gly Leu Pro 180 185 190		
Thr Ala Phe Ile Thr Trp Tyr Phe Ser Gly Tyr Met Leu Gly Lys Val 195 200 205		
Leu Gly Arg Thr Ile His Val Pro Val Pro Glu Leu Leu Ser Gly Gly 210 215 220		
Thr Gln Asp Asn Asp Leu Pro Lys Glu Pro Ala Lys Ala Gly Thr Val 225 230 235 240		
Val Ala Ile Met Leu Ile Pro Met Leu Leu Ile Phe Leu Asn Thr Gly 245 250 255		
Val Ser Ala Leu Ile Ser Glu Lys Leu Val Ser Ala Asp Glu Thr Trp 260 265 270		
Val Gln Thr Ala Lys Ile Ile Gly Ser Thr Pro Ile Ala Leu Leu Ile 275 280 285		
Ser Val Leu Val Ala Leu Phe Val Leu Gly Arg Lys Arg Gly Glu Ser 290 295 300		
Gly Ser Ala Leu Glu Lys Thr Val Asp Gly Ala Leu Ala Pro Val Cys 305 310 315 320		
Ser Val Ile Leu Ile Thr Gly Ala Gly Gly Met Phe Gly Gly Val Leu 325 330 335		
Arg Ala Ser Gly Ile Gly Lys Ala Leu Ala Asp Ser Met Ala Asp Leu 340 345 350		

Gly Ile Pro Val Leu Leu Gly Cys Phe Leu Val Ala Leu Ala Leu Arg
355 360 365

Ile Ala Gln Gly Ser Ala Thr Val Ala Leu Thr Thr Ala Ala Ala Leu
370 375 380

Met Ala Pro Ala Val Ala Ala Ala Gly Phe Thr Asp Trp Gln Leu Ala
385 390 395 400

Cys Ile Val Leu Ala Thr Ala Ala Gly Ser Val Gly Cys Ser His Phe
405 410 415

Asn Asp Ser Gly Phe Trp Leu Val Gly Arg Leu Leu Asp Met Asp Val
420 425 430

Pro Thr Thr Leu Lys Thr Trp Thr Val Asn Gln Thr Leu Ile Ala Leu
435 440 445

Ile Gly Phe Ala Leu Ser Ala Leu Leu Phe Ala Ile Val
450 455 460

<210> 589
<211> 8
<212> DNA
<213> Neisseria gonorrhoeae

<220>
<221> misc_feature
<222> (1)..(8)
<223> N= Unknown

<400> 589
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8

<210> 590
<211> 461
<212> PRT
<213> Neisseria gonorrhoeae

<400> 590
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Ser Ala Ala Ala Ile Ile Leu Ile Leu Ile Leu Ile Val Lys Phe Arg
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Ile Arg Ala Leu Leu Thr Leu Val Ile Ala Ser Leu Leu Thr Ala Leu
35 40 45
Ala Thr Gly Leu Pro Thr Gly Ser Ile Val Asn Asp Val Leu Val Lys
50 55 60
Asn Phe Gly Gly Thr Leu Gly Gly Val Ala Leu Leu Val Gly Leu Gly
65 70 75 80
Ala Met Leu Gly Arg Leu Val Glu Thr Ser Gly Gly Ala Gln Ser Leu

85

90

95

Ala Asp Ala Leu Ile Arg Met Phe Gly Glu Lys Arg Ala Pro Phe Ala
100 105 110

Pro Gly Val Ala Ser Leu Ile Phe Gly Phe Pro Ile Phe Phe Asp Ala
115 120 125

Gly Leu Ile Val Met Leu Pro Ile Val Phe Ala Thr Ala Arg Arg Met
130 135 140

Lys Gln Asp Val Leu Pro Phe Ala Leu Ala Ser Val Gly Ala Phe Ser
145 150 155 160

Val Met His Val Phe Leu Pro Pro His Pro Gly Pro Ile Ala Ala Ser
165 170 175

Glu Phe Tyr Gly Ala Asn Ile Gly Gln Val Leu Ile Leu Gly Leu Pro
180 185 190

Thr Ala Phe Ile Thr Trp Tyr Phe Ser Gly Tyr Met Leu Gly Lys Val
195 200 205

Leu Gly Arg Ala Ile His Val Pro Val Pro Glu Leu Leu Ser Gly Gly
210 215 220

Thr Gln Asp Ser Asp Pro Pro Lys Glu Pro Ala Lys Ala Gly Thr Val
225 230 235 240

Val Ala Val Met Leu Ile Pro Met Leu Leu Ile Phe Leu Asn Thr Gly
245 250 255

Val Ser Ala Leu Ile Ser Glu Lys Leu Val Ser Ala Asp Glu Thr Trp
260 265 270

Val Gln Thr Ala Lys Met Ile Gly Ser Thr Pro Val Ala Leu Leu Ile
275 280 285

Ser Val Leu Ala Ala Leu Leu Val Leu Gly Arg Lys Arg Gly Glu Ser
290 295 300

Gly Ser Thr Leu Glu Lys Thr Val Asp Gly Ala Leu Ala Pro Ala Cys
305 310 315 320

Ser Val Ile Leu Ile Thr Gly Ala Gly Gly Met Phe Gly Gly Val Leu
325 330 335

Arg Ala Ser Gly Ile Gly Lys Ala Leu Ala Asp Ser Met Ala Asp Leu
340 345 350

Gly Ile Pro Val Leu Leu Gly Cys Phe Leu Val Ala Leu Ala Leu Arg
355 360 365

Ile Ala Gln Gly Ser Ala Thr Val Ala Leu Thr Thr Ala Ala Ala Leu
370 375 380

Met Ala Pro Ala Val Ala Ala Ala Gly Phe Thr Asp Trp Gln Leu Ala
 385 390 395 400

Cys Ile Val Leu Ala Thr Ala Ala Gly Ser Val Gly Cys Ser His Phe
 405 410 415

Asn Asp Ser Gly Phe Trp Leu Val Gly Arg Leu Ser Asp Met Asp Val
 420 425 430

Pro Thr Thr Leu Lys Thr Trp Thr Val Asn Gln Thr Leu Ile Ala Phe
 435 440 445

Ile Gly Phe Ala Leu Ser Ala Leu Leu Phe Ala Ile Val
 450 455 460

<210> 591
 <211> 1386
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 591
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 atcactctca ttctgatttt aatcgtcaaa ttccgcatcc gcgcgctgct gacactggtc 120
 atcgccagcc tgctgacggc tttggcaacc ggtttgccca caggcagcat cgtcaacgac 180
 gtactggcca aaaacttcgg cggcacgctc ggcgggcggt cgcttctggt cggctctgggc 240
 gcaatgctcg gacgttttgt agaaacatcc ggcgggcgac agtcgctggc ggacgcgctg 300
 atccggatgt tcggcgaaaa acgcgcaccg ttcgctccgg gcgttgccct gctgattttc 360
 ggcttcccga ttttcttcga tgccggacta atcgctcatg tgcccatcgt attcgccacc 420
 gcacggcgca tgaaacagga cgtactgcc ttcgcgcttg cctccgctcg cgcattttcc 480
 gtcattgcacg tcttctctgcc gcccctcccg ggcccgtatt ccgcttccga attttacggc 540
 gcgaacatcg gccagggtttt gattttgggt ctgccgaccg ccttcatcac atgggtatttc 600
 agcggctata tgctcggaag agtggtgggg cgcgccatcc atgttcccgt tcccgaactg 660
 ctacgcggcg gcacgcgaag cagcgaccgc ccgaaagaac ctgccaaagc aggaacggtc 720
 gtcgccgtca tgctgattcc catgctgctg attttcctga ataccggcgt atcagccctc 780
 atcagcgaag aactcgtaag tgccggacga acttggttcc agacggcaaa aatgatcggg 840
 tcgacacctg tcgcccctct gatttccgta ttggccgcac tgttggtctt gggacgcaaa 900
 cgcggcgaaa gcggcagcac gttggaaaaa accgtggacg gcgcactcgc ccccgctgt 960
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 ttccttgctg ccttggcact gcgtatcgcg caaggttcgg caaccgtcgc cctgaccaca 1140
 gccgcgcgc tgatgggtcc tgccgttgcc gccgcgggt ttaccgactg gcagctcgcc 1200
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 gtctga 1386

<210> 592
 <211> 461
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 592
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Ser Ala Ala Ala Ile Ile Leu Ile Leu Ile Leu Ile Val Lys Phe Arg

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Ile	Arg	Ala	Leu	Leu	Thr	Leu	Val	Ile	Ala	Ser	Leu	Leu	Thr	Ala	Leu	
35					40					45						
Ala	Thr	Gly	Leu	Pro	Thr	Gly	Ser	Ile	Val	Asn	Asp	Val	Leu	Val	Lys	
50					55					60						
Asn	Phe	Gly	Gly	Thr	Leu	Gly	Gly	Val	Ala	Leu	Leu	Val	Gly	Leu	Gly	
65					70					75					80	
Ala	Met	Leu	Gly	Arg	Leu	Val	Glu	Thr	Ser	Gly	Gly	Ala	Gln	Ser	Leu	
85					90					95						
Ala	Asp	Ala	Leu	Ile	Arg	Met	Phe	Gly	Glu	Lys	Arg	Ala	Pro	Phe	Ala	
100					105					110						
Pro	Gly	Val	Ala	Ser	Leu	Ile	Phe	Gly	Phe	Pro	Ile	Phe	Phe	Asp	Ala	
115					120					125						
Gly	Leu	Ile	Val	Met	Leu	Pro	Ile	Val	Phe	Ala	Thr	Ala	Arg	Arg	Met	
130					135					140						
Lys	Gln	Asp	Val	Leu	Pro	Phe	Ala	Leu	Ala	Ser	Val	Gly	Ala	Phe	Ser	
145					150					155					160	
Val	Met	His	Val	Phe	Leu	Pro	Pro	His	Pro	Gly	Pro	Ile	Ala	Ala	Ser	
165					170					175						
Glu	Phe	Tyr	Gly	Ala	Asn	Ile	Gly	Gln	Val	Leu	Ile	Leu	Gly	Leu	Pro	
180					185					190						
Thr	Ala	Phe	Ile	Thr	Trp	Tyr	Phe	Ser	Gly	Tyr	Met	Leu	Gly	Lys	Val	
195					200					205						
Leu	Gly	Arg	Ala	Ile	His	Val	Pro	Val	Pro	Glu	Leu	Leu	Ser	Gly	Gly	
210					215					220						
Thr	Gln	Asp	Ser	Asp	Pro	Pro	Lys	Glu	Pro	Ala	Lys	Ala	Gly	Thr	Val	
225					230					235					240	
Val	Ala	Val	Met	Leu	Ile	Pro	Met	Leu	Leu	Ile	Phe	Leu	Asn	Thr	Gly	
245					250					255						
Val	Ser	Ala	Leu	Ile	Ser	Glu	Lys	Leu	Val	Ser	Ala	Asp	Glu	Thr	Trp	
260					265					270						
Val	Gln	Thr	Ala	Lys	Met	Ile	Gly	Ser	Thr	Pro	Val	Ala	Leu	Leu	Ile	
275					280					285						
Ser	Val	Leu	Ala	Ala	Leu	Leu	Val	Leu	Gly	Arg	Lys	Arg	Gly	Glu	Ser	
290					295					300						
Gly	Ser	Thr	Leu	Glu	Lys	Thr	Val	Asp	Gly	Ala	Leu	Ala	Pro	Ala	Cys	
305					310					315					320	

Ser Val Ile Leu Ile Thr Gly Ala Gly Gly Met Phe Gly Gly Val Leu
325 330 335

Arg Ala Ser Gly Ile Gly Lys Ala Leu Ala Asp Ser Met Ala Asp Leu
340 345 350

Gly Ile Pro Val Leu Leu Gly Cys Phe Leu Val Ala Leu Ala Leu Arg
355 360 365

Ile Ala Gln Gly Ser Ala Thr Val Ala Leu Thr Thr Ala Ala Ala Leu
370 375 380

Met Ala Pro Ala Val Ala Ala Ala Gly Phe Thr Asp Trp Gln Leu Ala
385 390 395 400

Cys Ile Val Leu Ala Thr Ala Ala Gly Ser Val Gly Cys Ser His Phe
405 410 415

Asn Asp Ser Gly Phe Trp Leu Val Gly Arg Leu Leu Asp Met Asp Val
420 425 430

Pro Thr Thr Leu Lys Thr Trp Thr Val Asn Gln Thr Leu Ile Ala Phe
435 440 445

Ile Gly Phe Ala Leu Ser Ala Leu Leu Phe Ala Ile Val
450 455 460

<210> 593
<211> 419
<212> DNA
<213> Neisseria meningitidis

<400> 593
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ggactgactt cctgcggctt tgccggtttc aacttttttg gcagacacca cgggcgcacg 180
tcgtcctgat tctcatcggc tgtatcgggc tgattccagt tgcccatttc ctcaaccccg 240
ctgccgcgcg ctttgccgcc gccggactgg tgctgcacgg ttattctttg gctcgcgggc 300
gcgtgattgc cgctctttt ctgctcggtta cgggctggac gctgatgtcg ttggcagcag 360
cttatccggc agcatttgcc ctgatgctgc ccttgcccggt actgatgttt ttccgtccg 419

<210> 594
<211> 140
<212> PRT
<213> Neisseria meningitidis

<220>
<221> misc_feature
<222> (60)..(60)
<223> Xaa= any amino acid

<400> 594
Asp Phe Gly Ile Ser Pro Val Tyr Leu Trp Val Ala Ala Ala Phe Lys
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His Leu Leu Ser Pro Trp Ala Ala Asp Ser Tyr Asp Val Ala Arg Phe

20

25

30

Ala Gly Val Phe Phe Ala Val Ile Gly Leu Thr Ser Cys Gly Phe Ala
35 40 45

Gly Phe Asn Phe Leu Gly Arg His His Gly Arg Xaa Val Val Leu Ile
50 55 60

Leu Ile Gly Cys Ile Gly Leu Ile Pro Val Ala His Phe Leu Asn Pro
65 70 75 80

Ala Ala Ala Ala Phe Ala Ala Ala Gly Leu Val Leu His Gly Tyr Ser
85 90 95

Leu Ala Arg Arg Arg Val Ile Ala Ala Ser Phe Leu Leu Gly Thr Gly
100 105 110

Trp Thr Leu Met Ser Leu Ala Ala Ala Tyr Pro Ala Ala Phe Ala Leu
115 120 125

Met Leu Pro Leu Pro Val Leu Met Phe Phe Arg Pro
130 135 140

<210> 595

<211> 1662

<212> DNA

<213> Neisseria meningitidis

<400> 595

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aatcctgacg	aacctgccgt	ctataccgcc	gtcgaagcac	tggcaggcag	ccccaccccc	180
ttgggtgccc	atctgttcgg	tcaaaccgat	ttcggcatac	cgcccgtgta	tctttggggt	240
gccgcccgcg	tcaaacattt	gctgtcgccg	tgggctgccc	actcatacga	tgccgcacgc	300
tttgccaggcg	tattttttgc	cgttatcgga	ctgacttcct	gcggctttgc	cggtttcaac	360
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attccagttg	cccatttcc	caaccccgc	gccgcccgc	ttgccgccc	cggactgggtg	480
ctgcacgggt	attctttggc	tcgccggcgc	gtgattgccg	cctcttttct	gctcggtagc	540
ggctggacgc	tgatgtcggt	ggcagcagct	tatccggcag	catttgccct	gatgctgccc	600
ttgcccgtac	tgatgttttt	ccgtccgtgg	caaagcaggc	gtttgatgtt	gacggcagtc	660
gcctcacttg	cctttgccc	gccgcttatg	accgtttacc	cgctgctctt	ggcaaaaacg	720
cagcccgcgc	tgttcgcgca	atggctcgac	tatcacgttt	tcggtacgtt	cggcggcggtg	780
cggcacgttc	agacggcatt	cagtttggtt	tactatctga	aaaacctgct	ttggtttgca	840
ttgcccgcgc	tgccgctggc	ggtttggaag	gtttgccgca	cgcgcctggt	ttcgaccgac	900
tgggggatgt	tgggcgctcg	ctggatgctt	gccgttttgg	tgctgcttgc	cgtaaatccg	960
cagcggtttc	aggataacct	cgtctggctg	cttcgcgcgc	ttgccctggt	cggcgcggcg	1020
caactggaca	gcctgaggcg	cggcgcggcg	gcgtttgtca	actggttcgg	cattatggcg	1080
ttcggactgt	ttgccgtggt	cctgtggacg	ggctttttcg	ccatgaatta	cggctggccc	1140
gccaagcttg	ccgaacgcgc	cgcctatttc	agcccgtatt	atgttcctga	tatcgatccc	1200
attccgatgg	cggttgccgt	actgttcaca	cccttggtgg	tgtgggcgat	tacccgga	1260
aacatacgcg	gcaggcaggc	ggttaccaac	tgggcggcag	gcgttaccct	gacctgggct	1320
ttgctgatga	gcgtgttcct	gccgtggctg	gacgcggcga	aaagccacgc	gccggtcgtc	1380
cggagtattg	aggcatcgct	ttccccgga	ttgaaacggg	agctttcaga	cggcatcgag	1440
tgtatcggca	taggcggcgg	cgacctgcac	acgcggattg	tttgacgca	gtacggcaca	1500
ttgccgcacc	gcgtcggcga	tgtacaatgc	cgctaccgca	tcgtcctcct	gccccaaat	1560
gcggatgcgc	cgcaaggctg	gcagacgggt	tggcagggtg	cgcgtccgcg	caacaaagac	1620

agtaagttcg cactgatacg gaaaatcggg gaaaatat aa

1662

<210> 596

<211> 553

<212> PRT

<213> Neisseria meningitidis

<400> 596

Met	Leu	Thr	Tyr	Thr	Pro	Pro	Asp	Ala	Arg	Pro	Pro	Ala	Lys	Thr	His
1				5					10					15	
Glu	Lys	Pro	Trp	Leu	Leu	Leu	Leu	Met	Ala	Phe	Ala	Trp	Leu	Trp	Pro
			20					25					30		
Gly	Val	Phe	Ser	His	Asp	Leu	Trp	Asn	Pro	Asp	Glu	Pro	Ala	Val	Tyr
		35					40					45			
Thr	Ala	Val	Glu	Ala	Leu	Ala	Gly	Ser	Pro	Thr	Pro	Leu	Val	Ala	His
		50				55					60				
Leu	Phe	Gly	Gln	Thr	Asp	Phe	Gly	Ile	Pro	Pro	Val	Tyr	Leu	Trp	Val
65					70					75					80
Ala	Ala	Ala	Phe	Lys	His	Leu	Leu	Ser	Pro	Trp	Ala	Ala	Asp	Ser	Tyr
				85					90					95	
Asp	Ala	Ala	Arg	Phe	Ala	Gly	Val	Phe	Phe	Ala	Val	Ile	Gly	Leu	Thr
			100					105					110		
Ser	Cys	Gly	Phe	Ala	Gly	Phe	Asn	Phe	Leu	Gly	Arg	His	His	Gly	Arg
		115					120					125			
Ser	Val	Val	Leu	Ile	Leu	Ile	Gly	Cys	Ile	Gly	Leu	Ile	Pro	Val	Ala
	130					135					140				
His	Phe	Leu	Asn	Pro	Ala	Ala	Ala	Ala	Phe	Ala	Ala	Ala	Gly	Leu	Val
145					150					155					160
Leu	His	Gly	Tyr	Ser	Leu	Ala	Arg	Arg	Arg	Val	Ile	Ala	Ala	Ser	Phe
				165					170					175	
Leu	Leu	Gly	Thr	Gly	Trp	Thr	Leu	Met	Ser	Leu	Ala	Ala	Ala	Tyr	Pro
			180					185						190	
Ala	Ala	Phe	Ala	Leu	Met	Leu	Pro	Leu	Pro	Val	Leu	Met	Phe	Phe	Arg
		195					200					205			
Pro	Trp	Gln	Ser	Arg	Arg	Leu	Met	Leu	Thr	Ala	Val	Ala	Ser	Leu	Ala
	210					215						220			
Phe	Ala	Leu	Pro	Leu	Met	Thr	Val	Tyr	Pro	Leu	Leu	Leu	Ala	Lys	Thr
225					230					235					240
Gln	Pro	Ala	Leu	Phe	Ala	Gln	Trp	Leu	Asp	Tyr	His	Val	Phe	Gly	Thr
				245					250					255	

Phe Gly Gly Val Arg His Val Gln Thr Ala Phe Ser Leu Phe Tyr Tyr
 260 265 270
 Leu Lys Asn Leu Leu Trp Phe Ala Leu Pro Ala Leu Pro Leu Ala Val
 275 280 285
 Trp Thr Val Cys Arg Thr Arg Leu Phe Ser Thr Asp Trp Gly Ile Leu
 290 295 300
 Gly Val Val Trp Met Leu Ala Val Leu Val Leu Leu Ala Val Asn Pro
 305 310 315 320
 Gln Arg Phe Gln Asp Asn Leu Val Trp Leu Leu Pro Pro Leu Ala Leu
 325 330 335
 Phe Gly Ala Ala Gln Leu Asp Ser Leu Arg Arg Gly Ala Ala Ala Phe
 340 345 350
 Val Asn Trp Phe Gly Ile Met Ala Phe Gly Leu Phe Ala Val Phe Leu
 355 360 365
 Trp Thr Gly Phe Phe Ala Met Asn Tyr Gly Trp Pro Ala Lys Leu Ala
 370 375 380
 Glu Arg Ala Ala Tyr Phe Ser Pro Tyr Tyr Val Pro Asp Ile Asp Pro
 385 390 395 400
 Ile Pro Met Ala Val Ala Val Leu Phe Thr Pro Leu Trp Leu Trp Ala
 405 410 415
 Ile Thr Arg Lys Asn Ile Arg Gly Arg Gln Ala Val Thr Asn Trp Ala
 420 425 430
 Ala Gly Val Thr Leu Thr Trp Ala Leu Leu Met Thr Leu Phe Leu Pro
 435 440 445
 Trp Leu Asp Ala Ala Lys Ser His Ala Pro Val Val Arg Ser Met Glu
 450 455 460
 Ala Ser Leu Ser Pro Glu Leu Lys Arg Glu Leu Ser Asp Gly Ile Glu
 465 470 475 480
 Cys Ile Gly Ile Gly Gly Gly Asp Leu His Thr Arg Ile Val Trp Thr
 485 490 495
 Gln Tyr Gly Thr Leu Pro His Arg Val Gly Asp Val Gln Cys Arg Tyr
 500 505 510
 Arg Ile Val Leu Leu Pro Gln Asn Ala Asp Ala Pro Gln Gly Trp Gln
 515 520 525
 Thr Val Trp Gln Gly Ala Arg Pro Arg Asn Lys Asp Ser Lys Phe Ala
 530 535 540
 Leu Ile Arg Lys Ile Gly Glu Asn Ile
 545 550

<210> 597
 <211> 1677
 <212> DNA
 <213> *Neisseria meningitidis*

<400> 597
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 aatcctgacg aacctgccgt ctataccgcc gtccaagcac tggcaggcag cccacccct 180
 ttggttgccc atctgttcgg tcaaatcgat ttcggcatac cgcccggtga tctttgggtt 240
 gccgcccgtg tcaaacattt gctgtcgccg tgggctgcgc acccgatga tgccgcacgc 300
 tttgccggcg tgtttttcgc cgttgtcgga ctgacttcct gcggctttgc cggtttcaac 360
 tttttgggca gacaccacgg gcgcagcgtc gtccgtattc tcatcggtcg tatcgggctg 420
 attccgaccg tacactttct caaccccgct gccgcgcgct ttgccgcgcg cggactgggtg 480
 ctgcacgggt attctttggc tcgcccgcgc gtgattgccg cctcttttct gctcgggtacg 540
 gggtggacgc tgatgtcggt ggcagcagct tatccggcgg catttgccct gatgctgccc 600
 ctgcccgtgc tgatgttttt ccgtccgtgg caaagcaggc gtttgatgtt gacggcagtc 660
 gcctcgcttg cctttgccct gccgcttatg accgtttacc cgctgctctt ggcaaaaacg 720
 cagcccgcgc tgttcgcgca atggctcgac gatcacgttt tcggtacgtt cggcggcggtg 780
 cggcacattc agacggcatt cagtttggtt tactatctga aaaacctgct ttggtttgca 840
 ttgctgcgc tgccgctggc gggttggaag gtttgccgca cgcgcctgtt ttcgaccgac 900
 tgggggattt tgggcgtcgt ctggatgctt gccgttttgg tgetgcttgc cgtcaatccg 960
 cagcgttttc aggataacct cgtctggctg cttccgcccgc ttgccctgtt cggcgcggcg 1020
 caactggaca gcctgagacg cggcgcggcg gcgtttgtca actggttcgg cattatggcg 1080
 ttccgactgt ttgccgtgtt cctgtggacg ggctttttcg ccatgaatta cggctggccc 1140
 gccaaagctt ccgaacgcgc cgcctatttc agcccgtatt atgttcctga tatcgatccc 1200
 attccgatgg cggttgccgt actgttcaca cccttgtggc tgtgggcgat taccgcgaaa 1260
 aacatacgcg gcaggcaggc ggttaccaac tgggcggcag gcgttaccct gacctgggct 1320
 ttgctgatga cgcgtgttct gccgtggctg gacgcggcga aaagccacgc gcccgctcgtc 1380
 cggagtatgg aggcacgct tccccggaa ttaaaacggg agctttcaga cggcatcgag 1440
 tgtatcgaca taggcggcgg cgacctacac acgcggattg tttggacgca gtacggcaca 1500
 ttgccgcacc gcgtcggcga tgtacaatgc cgctaccgca tcgtccgctt gccccaaaac 1560
 gcggatgcgc cgcaaggctg gcagacgggtc tggcaggggtg cgcgcccgcg caacaaagac 1620
 agtaagttcg cactgatacg gaaaaccggg gaaaatatat taaaaacaac agattga 1677

<210> 598
 <211> 558
 <212> PRT
 <213> *Neisseria meningitidis*

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 Glu Lys Pro Trp Leu Leu Leu Met Ala Phe Ala Trp Leu Trp Pro
 20 25 30
 Gly Val Phe Ser His Asp Leu Trp Asn Pro Asp Glu Pro Ala Val Tyr
 35 40 45
 Thr Ala Val Glu Ala Leu Ala Gly Ser Pro Thr Pro Leu Val Ala His
 50 55 60
 Leu Phe Gly Gln Ile Asp Phe Gly Ile Pro Pro Val Tyr Leu Trp Val
 65 70 75 80

Ala	Ala	Ala	Phe	Lys	His	Leu	Leu	Ser	Pro	Trp	Ala	Ala	Asp	Pro	Tyr	85	90	95
Asp	Ala	Ala	Arg	Phe	Ala	Gly	Val	Phe	Phe	Ala	Val	Val	Gly	Leu	Thr	100	105	110
Ser	Cys	Gly	Phe	Ala	Gly	Phe	Asn	Phe	Leu	Gly	Arg	His	His	Gly	Arg	115	120	125
Ser	Val	Val	Leu	Ile	Leu	Ile	Gly	Cys	Ile	Gly	Leu	Ile	Pro	Thr	Val	130	135	140
His	Phe	Leu	Asn	Pro	Ala	Ala	Ala	Ala	Phe	Ala	Ala	Ala	Gly	Leu	Val	145	150	155
Leu	His	Gly	Tyr	Ser	Leu	Ala	Arg	Arg	Arg	Val	Ile	Ala	Ala	Ser	Phe	165	170	175
Leu	Leu	Gly	Thr	Gly	Trp	Thr	Leu	Met	Ser	Leu	Ala	Ala	Ala	Tyr	Pro	180	185	190
Ala	Ala	Phe	Ala	Leu	Met	Leu	Pro	Leu	Pro	Val	Leu	Met	Phe	Phe	Arg	195	200	205
Pro	Trp	Gln	Ser	Arg	Arg	Leu	Met	Leu	Thr	Ala	Val	Ala	Ser	Leu	Ala	210	215	220
Phe	Ala	Leu	Pro	Leu	Met	Thr	Val	Tyr	Pro	Leu	Leu	Leu	Ala	Lys	Thr	225	230	235
Gln	Pro	Ala	Leu	Phe	Ala	Gln	Trp	Leu	Asp	Asp	His	Val	Phe	Gly	Thr	245	250	255
Phe	Gly	Gly	Val	Arg	His	Ile	Gln	Thr	Ala	Phe	Ser	Leu	Phe	Tyr	Tyr	260	265	270
Leu	Lys	Asn	Leu	Leu	Trp	Phe	Ala	Leu	Pro	Ala	Leu	Pro	Leu	Ala	Val	275	280	285
Trp	Thr	Val	Cys	Arg	Thr	Arg	Leu	Phe	Ser	Thr	Asp	Trp	Gly	Ile	Leu	290	295	300
Gly	Val	Val	Trp	Met	Leu	Ala	Val	Leu	Val	Leu	Leu	Ala	Val	Asn	Pro	305	310	315
Gln	Arg	Phe	Gln	Asp	Asn	Leu	Val	Trp	Leu	Leu	Pro	Pro	Leu	Ala	Leu	325	330	335
Phe	Gly	Ala	Ala	Gln	Leu	Asp	Ser	Leu	Arg	Arg	Gly	Ala	Ala	Ala	Phe	340	345	350
Val	Asn	Trp	Phe	Gly	Ile	Met	Ala	Phe	Gly	Leu	Phe	Ala	Val	Phe	Leu	355	360	365
Trp	Thr	Gly	Phe	Phe	Ala	Met	Asn	Tyr	Gly	Trp	Pro	Ala	Lys	Leu	Ala	370	375	380

Glu Arg Ala Ala Tyr Phe Ser Pro Tyr Tyr Val Pro Asp Ile Asp Pro
 385 390 395 400
 Ile Pro Met Ala Val Ala Val Leu Phe Thr Pro Leu Trp Leu Trp Ala
 405 410 415
 Ile Thr Arg Lys Asn Ile Arg Gly Arg Gln Ala Val Thr Asn Trp Ala
 420 425 430
 Ala Gly Val Thr Leu Thr Trp Ala Leu Leu Met Thr Leu Phe Leu Pro
 435 440 445
 Trp Leu Asp Ala Ala Lys Ser His Ala Pro Val Val Arg Ser Met Glu
 450 455 460
 Ala Ser Leu Ser Pro Glu Leu Lys Arg Glu Leu Ser Asp Gly Ile Glu
 465 470 475 480
 Cys Ile Asp Ile Gly Gly Gly Asp Leu His Thr Arg Ile Val Trp Thr
 485 490 495
 Gln Tyr Gly Thr Leu Pro His Arg Val Gly Asp Val Gln Cys Arg Tyr
 500 505 510
 Arg Ile Val Arg Leu Pro Gln Asn Ala Asp Ala Pro Gln Gly Trp Gln
 515 520 525
 Thr Val Trp Gln Gly Ala Arg Pro Arg Asn Lys Asp Ser Lys Phe Ala
 530 535 540
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 545 550 555

<210> 599
 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

<220>
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 <222> (1)..(8)
 <223> N= Unknown

<400> 599
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8

<210> 600
 <211> 585
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 600
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 His Leu Ala Ile Arg Pro Phe Leu Leu Thr Leu Met Leu Thr Tyr Thr

20					25					30					
Pro	Pro	Asp	Ala	Arg	Pro	Pro	Ala	Lys	Thr	His	Glu	Lys	Pro	Trp	Leu
		35					40					45			
Leu	Leu	Leu	Met	Ala	Phe	Ala	Trp	Leu	Trp	Pro	Gly	Val	Phe	Ser	His
	50					55					60				
Asp	Leu	Trp	Asn	Pro	Ala	Glu	Pro	Ala	Val	Tyr	Thr	Ala	Val	Glu	Ala
65				70					75					80	
Leu	Ala	Gly	Ser	Pro	Thr	Pro	Leu	Val	Ala	His	Leu	Phe	Gly	Gln	Thr
				85					90					95	
Asp	Phe	Gly	Ile	Pro	Pro	Val	Tyr	Leu	Trp	Val	Ala	Ala	Ala	Phe	Lys
			100					105					110		
His	Leu	Leu	Ser	Pro	Trp	Ala	Ala	His	Pro	Tyr	Asp	Ala	Ala	Arg	Phe
		115					120					125			
Ala	Gly	Val	Phe	Phe	Ala	Val	Ile	Gly	Leu	Thr	Ser	Cys	Gly	Phe	Ala
	130					135						140			
Gly	Phe	Asn	Phe	Leu	Gly	Arg	His	His	Gly	Arg	Ser	Val	Val	Leu	Ile
145				150					155					160	
His	Ile	Gly	Cys	Ile	Gly	Leu	Ile	Pro	Val	Ala	His	Phe	Phe	Asn	Pro
				165				170						175	
Ala	Ala	Ala	Ala	Phe	Ala	Ala	Ala	Gly	Leu	Val	Leu	His	Gly	Tyr	Ser
			180					185					190		
Leu	Ala	Arg	Arg	Arg	Val	Ile	Ala	Ala	Ser	Phe	Leu	Leu	Gly	Thr	Gly
		195					200						205		
Trp	Thr	Leu	Met	Ser	Leu	Ala	Ala	Ala	Tyr	Pro	Ala	Ala	Phe	Ala	Leu
	210					215					220				
Met	Leu	Pro	Leu	Pro	Val	Leu	Met	Phe	Phe	Arg	Pro	Trp	Gln	Ser	Arg
225				230					235					240	
Arg	Leu	Met	Leu	Thr	Ala	Val	Ala	Ser	Leu	Ala	Phe	Ala	Leu	Pro	Leu
				245					250					255	
Met	Thr	Val	Tyr	Pro	Leu	Leu	Leu	Ala	Lys	Thr	Gln	Pro	Ala	Leu	Phe
			260					265					270		
Ala	Gln	Trp	Leu	Asn	Tyr	His	Val	Phe	Gly	Thr	Phe	Gly	Gly	Val	Arg
		275					280					285			
His	Ile	Gln	Arg	Ala	Phe	Ser	Leu	Phe	His	Tyr	Leu	Lys	Asn	Leu	Leu
	290					295					300				
Trp	Phe	Ala	Pro	Pro	Gly	Leu	Pro	Leu	Ala	Val	Trp	Thr	Val	Cys	Arg
305				310							315				320

Thr	Arg	Leu	Phe	Ser	Thr	Asp	Trp	Gly	Ile	Leu	Gly	Ile	Val	Trp	Met	325	330	335	
Leu	Ala	Val	Leu	Val	Leu	Leu	Ala	Phe	Asn	Pro	Gln	Arg	Phe	Gln	Asp	340	345	350	
Asn	Leu	Val	Trp	Leu	Leu	Pro	Pro	Leu	Ala	Leu	Phe	Gly	Ala	Ala	Gln	355	360	365	
Leu	Asp	Ser	Leu	Arg	Arg	Gly	Ala	Ala	Ala	Phe	Val	Asn	Trp	Phe	Gly	370	375	380	
Ile	Met	Ala	Phe	Gly	Leu	Phe	Ala	Val	Phe	Leu	Trp	Thr	Gly	Phe	Phe	385	390	395	400
Ala	Met	Asn	Tyr	Gly	Trp	Pro	Ala	Lys	Leu	Ala	Glu	Arg	Ala	Ala	Tyr	405	410	415	
Phe	Ser	Pro	Tyr	Tyr	Val	Pro	Asp	Ile	Asp	Pro	Ile	Pro	Met	Ala	Val	420	425	430	
Ala	Val	Leu	Phe	Thr	Pro	Leu	Trp	Leu	Trp	Ala	Ile	Thr	Arg	Lys	Asn	435	440	445	
Ile	Arg	Gly	Arg	Gln	Ala	Val	Thr	Asn	Trp	Ala	Ala	Gly	Val	Thr	Leu	450	455	460	
Thr	Trp	Ala	Leu	Leu	Met	Thr	Leu	Phe	Leu	Pro	Trp	Leu	Asp	Ala	Ala	465	470	475	480
Lys	Ser	His	Ala	Pro	Val	Val	Arg	Ser	Met	Glu	Ala	Ser	Phe	Ser	Pro	485	490	495	
Glu	Leu	Lys	Arg	Glu	Leu	Ser	Asp	Gly	Ile	Glu	Cys	Ile	Gly	Ile	Gly	500	505	510	
Gly	Gly	Asp	Leu	His	Thr	Arg	Ile	Val	Trp	Thr	Gln	Tyr	Gly	Thr	Leu	515	520	525	
Pro	His	Arg	Val	Gly	Asp	Val	Arg	Cys	Arg	Tyr	Arg	Ile	Val	Arg	Leu	530	535	540	
Pro	Gln	Asn	Ala	Asp	Ala	Pro	Gln	Gly	Trp	Gln	Thr	Val	Trp	Gln	Gly	545	550	555	560
Ala	Arg	Pro	Arg	Asn	Lys	Asp	Ser	Lys	Phe	Ala	Leu	Ile	Arg	Lys	Ile	565	570	575	
Gly	Glu	Asn	Ile	Leu	Lys	Thr	Thr	Asp								580	585		

<210> 601
 <211> 1677
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 601
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ctgctgctgt tgatggcggt tgccctggctg tggcccgcg tggtttccca cgatttgtgg 120
aatcctgccg aacctgccgt ctataccgcc gtcgaagcac tggcaggcag cccaccccc 180
ttggttgccc atctgttcgg tcaaacccgat ttcggcatac cgcccggtga tctttgggtt 240
gccgccgcat tcaaacattt gctgtcgccg tgggcagccg acccgatatga tgccgcacgc 300
tttgcaggcg tattttttgc cgttatcgga ctgacttctt gcggctttgc cggtttcaac 360
tttttgggca gacaccacgg gcgcagcggt gttttaatcc atatcggctg tatcgggctg 420
attccgggtt gccatttccct caatcccgcg gccggccgct ttgccgcgc cggactggtg 480
ctgcacggct actcgctggc acgcggcgcg gtgattgccg cctctttcct gctcggtagc 540
ggttggacgt tgatgtcgct ggcggcagct tatccggcgg cgtttgcgct gatgctgccc 600
ctgcccgctg cgtgtttttt ccgtccgtgg caaagcaggc gtttgatgtt gacggcagtc 660
gcctcgcttg cctttgcctt gccgcttatg accgtttacc cgctgctctt ggcaaaaacg 720
cagcccgcg cgtttgcgca atggctcaac tatcacgttt tcggtagctt cggcgcgctg 780
cggcacattc agagggcatt cagtttgttt cactatctga aaaatctgct ttggttcgca 840
ccgcccgggc tgccgctggc gggttggacg gtttgccgca cagcctgtt ttcgaccgac 900
tggtgggattt tgggcattgt ctggatgctt gccgttttg tgctgctcgc ctttaatccg 960
cagcgttttc aagacaacct cgtctggctg ctgccgcgc ttgccctgtt cggcgcgcg 1020
caactggaca gcctgaggcg cggcgcgcg gcttttgcacta actggttcgg cattatggcg 1080
ttcgggctgt ttgccgtgtt cctgtggacg ggctttttcg ccatgaatta cggctggccc 1140
gccaaagctt gccgaacgcg cgcctacttc agcccgatt acgttccga catcgatccc 1200
attccgatgg cggttgcctt actgttcaca cccctgtggc tgtgggcat taccggaaa 1260
aacatacgcg gcaggcaggc ggttaccaac tggcgcgag gcgttaccct gacctgggct 1320
ttgctgatga cgctgttcc gccgtggctg gacgcggcga aaagccacgc gccgctcgtc 1380
cggagtatgg aggcacgtt tccccggaa ttaaacggg agctttcaga cggcatcgag 1440
tgtatcgga taggcggcg cgacctgcac acgcggattg tttggacgca gtacggcaca 1500
ttgccgcacc gcgtcggcga tgctcggttgc cgtaccgta tcgtccgctt gccccaaaac 1560
gcggatgcgc cgcaaggctg gcagacggtc tggcagggg cgcgcccgcg caacaaagac 1620
agtaagttt cactgatagc gaaaatcggg gaaaatatat taaaaacaac agattga 1677

<210> 602
<211> 558
<212> PRT
<213> *Neisseria gonorrhoeae*

<400> 602
Met Leu Thr Tyr Thr Pro Pro Asp Ala Arg Pro Pro Ala Lys Thr His
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Glu Lys Pro Trp Leu Leu Leu Leu Met Ala Phe Ala Trp Leu Trp Pro
20 25 30
Gly Val Phe Ser His Asp Leu Trp Asn Pro Ala Glu Pro Ala Val Tyr
35 40 45
Thr Ala Val Glu Ala Leu Ala Gly Ser Pro Thr Pro Leu Val Ala His
50 55 60
Leu Phe Gly Gln Thr Asp Phe Gly Ile Pro Pro Val Tyr Leu Trp Val
65 70 75 80
Ala Ala Ala Phe Lys His Leu Leu Ser Pro Trp Ala Ala Asp Pro Tyr
85 90 95
Asp Ala Ala Arg Phe Ala Gly Val Phe Phe Ala Val Ile Gly Leu Thr
100 105 110

Ser	Cys	Gly	Phe	Ala	Gly	Phe	Asn	Phe	Leu	Gly	Arg	His	His	Gly	Arg
		115					120					125			
Ser	Val	Val	Leu	Ile	His	Ile	Gly	Cys	Ile	Gly	Leu	Ile	Pro	Val	Ala
	130					135					140				
His	Phe	Leu	Asn	Pro	Ala	Ala	Ala	Ala	Phe	Ala	Ala	Ala	Gly	Leu	Val
145					150					155					160
Leu	His	Gly	Tyr	Ser	Leu	Ala	Arg	Arg	Arg	Val	Ile	Ala	Ala	Ser	Phe
				165					170					175	
Leu	Leu	Gly	Thr	Gly	Trp	Thr	Leu	Met	Ser	Leu	Ala	Ala	Ala	Tyr	Pro
			180					185					190		
Ala	Ala	Phe	Ala	Leu	Met	Leu	Pro	Leu	Pro	Val	Leu	Met	Phe	Phe	Arg
		195					200					205			
Pro	Trp	Gln	Ser	Arg	Arg	Leu	Met	Leu	Thr	Ala	Val	Ala	Ser	Leu	Ala
	210					215					220				
Phe	Ala	Leu	Pro	Leu	Met	Thr	Val	Tyr	Pro	Leu	Leu	Leu	Ala	Lys	Thr
225					230					235					240
Gln	Pro	Ala	Leu	Phe	Ala	Gln	Trp	Leu	Asn	Tyr	His	Val	Phe	Gly	Thr
				245					250					255	
Phe	Gly	Gly	Val	Arg	His	Ile	Gln	Arg	Ala	Phe	Ser	Leu	Phe	His	Tyr
			260					265					270		
Leu	Lys	Asn	Leu	Leu	Trp	Phe	Ala	Pro	Pro	Gly	Leu	Pro	Leu	Ala	Val
		275					280					285			
Trp	Thr	Val	Cys	Arg	Thr	Arg	Leu	Phe	Ser	Thr	Asp	Trp	Gly	Ile	Leu
	290					295					300				
Gly	Ile	Val	Trp	Met	Leu	Ala	Val	Leu	Val	Leu	Leu	Ala	Phe	Asn	Pro
305					310					315					320
Gln	Arg	Phe	Gln	Asp	Asn	Leu	Val	Trp	Leu	Leu	Pro	Pro	Leu	Ala	Leu
				325					330					335	
Phe	Gly	Ala	Ala	Gln	Leu	Asp	Ser	Leu	Arg	Arg	Gly	Ala	Ala	Ala	Phe
			340					345					350		
Val	Asn	Trp	Phe	Gly	Ile	Met	Ala	Phe	Gly	Leu	Phe	Ala	Val	Phe	Leu
		355					360					365			
Trp	Thr	Gly	Phe	Phe	Ala	Met	Asn	Tyr	Gly	Trp	Pro	Ala	Lys	Leu	Ala
	370					375					380				
Glu	Arg	Ala	Ala	Tyr	Phe	Ser	Pro	Tyr	Tyr	Val	Pro	Asp	Ile	Asp	Pro
385					390					395					400
Ile	Pro	Met	Ala	Val	Ala	Val	Leu	Phe	Thr	Pro	Leu	Trp	Leu	Trp	Ala
				405					410					415	

Ile Thr Arg Lys Asn Ile Arg Gly Arg Gln Ala Val Thr Asn Trp Ala
420 425 430

Ala Gly Val Thr Leu Thr Trp Ala Leu Leu Met Thr Leu Phe Leu Pro
435 440 445

Trp Leu Asp Ala Ala Lys Ser His Ala Pro Val Val Arg Ser Met Glu
450 455 460

Ala Ser Phe Ser Pro Glu Leu Lys Arg Glu Leu Ser Asp Gly Ile Glu
465 470 475 480

Cys Ile Gly Ile Gly Gly Gly Asp Leu His Thr Arg Ile Val Trp Thr
485 490 495

Gln Tyr Gly Thr Leu Pro His Arg Val Gly Asp Val Arg Cys Arg Tyr
500 505 510

Arg Ile Val Arg Leu Pro Gln Asn Ala Asp Ala Pro Gln Gly Trp Gln
515 520 525

Thr Val Trp Gln Gly Ala Arg Pro Arg Asn Lys Asp Ser Lys Phe Ala
530 535 540

Leu Ile Arg Lys Ile Gly Glu Asn Ile Leu Lys Thr Thr Asp
545 550 555

<210> 603

<211> 180

<212> PRT

<213> Neisseria meningitidis

<400> 603

Cys Ala Ala Thr Cys Cys Gly Cys Cys Ala Ala Ala Thr Gly Gly Thr
1 5 10 15

Thr Ala Thr Cys Gly Gly Gly Cys Cys Ala Ala Ala Cys Thr Cys Thr
20 25 30

Ala Gly Thr Cys Gly Gly Cys Ala Cys Ala Gly Cys Ala Ala Thr Thr
35 40 45

Gly Gly Gly Ala Thr Ala Cys Gly Cys Gly Gly Gly Cys Ala Gly Ala
50 55 60

Thr Ala Ala Ala Gly Cys Thr Thr Gly Gly Cys Gly Gly Cys Ala Ala
65 70 75 80

Cys Cys Thr Gly Cys Ala Thr Thr Ala Cys Gly Ala Thr Ala Thr Ala
85 90 95

Thr Thr Thr Ala Cys Cys Gly Gly Cys Cys Gly Cys Gly Cys Ala Thr
100 105 110

Thr Gly Ala Ala Ala Ala Ala Gly Cys Cys Cys Gly Ala Ala Thr Thr
115 120 125

Thr Thr Thr Cys Cys Ala Ala Thr Cys Ala Ala Gly Gly Ala Ala Ala
130 135 140

Thr Gly Gly Gly Cys Ala Ala Gly Cys Gly Gly Thr Thr Thr Thr Cys
145 150 155 160

Ala Gly Gly Thr Ala Gly Gly Cys Thr Ala Thr Ala Cys Gly Thr Thr
165 170 175

Thr Thr Ala Ala
180

<210> 604
<211> 59
<212> PRT
<213> Neisseria meningitidis

<400> 604
Gln Ser Ala Lys Trp Leu Ser Gly Gln Thr Leu Val Gly Thr Ala Ile
1 5 10 15

Gly Ile Arg Gly Gln Ile Lys Leu Gly Gly Asn Leu His Tyr Asp Ile
20 25 30

Phe Thr Gly Arg Ala Leu Lys Lys Pro Glu Phe Phe Gln Ser Arg Lys
35 40 45

Trp Ala Ser Gly Phe Gln Val Gly Tyr Thr Phe
50 55

<210> 605
<211> 1029
<212> DNA
<213> Neisseria meningitidis

<400> 605
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gacaatcctt tgggactgag tgatatgttc tatgtaaatt atggacgttc gattggcggt 120
acgcccgatg aggaaagttt tgacggccat cgcaaagaag gcggatcaaa caattacgcc 180
gtacattatt cagccccctt cggtaaatgg acatgggcat tcaatcacia tggctaccgt 240
taccatcagg cagtttcagg attatcgga gtctatgact ataattggaaa aagttacaat 300
actgatttcg gcttcaaccg cctgttgtat cgtgatgcca aacgcaaaac ctatctcggt 360
gtaaaactgt ggatgagggg aacaaaaagt tacattgatg atgccgaact gactgtacaa 420
cggcgtaaaa ctgcgggttg gttggcagaa ctttcccaca agaatatat cggtcgcagt 480
acggcagatt ttaagttgaa atataaacgc ggcaccggca tgaaagatgc tctgcgcgcg 540
cctgaagaag cctttggcga aggcacgtca cgtatgaaaa tttggacggc atcggctgat 600
gtaaatactc cttttcaaat cggtaaacag ctatttgctt atgacacatc cgttcattgca 660
caatggaaca aaaccccgct aacatcgcaa gacaaactgg ctatcggcgg acaccacacc 720
gtacgtggct tcgacgggtg aatgagtttg tctgccgagc ggggatggta ttggcgcaac 780
gatttgagct ggcaatttaa accaggccat cagctttatc ttggggctga tgtaggacat 840
gtttcaggac aatccgccaa atggttatcg ggccaaactc tagtcggcac agcaattggg 900
atacgcgggc agataaagct tggcggcaac ctgcattacg atatatttac cggccgcgca 960
ttgaaaaagc ccgaattttt ccaatcaagg aaatgggcaa gcggttttca ggtaggctat 1020
acgttttaa 1029

<210> 606

<211> 342
<212> PRT
<213> Neisseria meningitidis

<400> 606

Met	Asp	Asn	Ser	Gly	Ser	Glu	Ala	Thr	Gly	Lys	Tyr	Gln	Gly	Asn	Ile
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Thr	Phe	Ser	Ala	Asp	Asn	Pro	Leu	Gly	Leu	Ser	Asp	Met	Phe	Tyr	Val
			20					25					30		
Asn	Tyr	Gly	Arg	Ser	Ile	Gly	Gly	Thr	Pro	Asp	Glu	Glu	Ser	Phe	Asp
		35					40					45			
Gly	His	Arg	Lys	Glu	Gly	Gly	Ser	Asn	Asn	Tyr	Ala	Val	His	Tyr	Ser
	50					55					60				
Ala	Pro	Phe	Gly	Lys	Trp	Thr	Trp	Ala	Phe	Asn	His	Asn	Gly	Tyr	Arg
65					70					75					80
Tyr	His	Gln	Ala	Val	Ser	Gly	Leu	Ser	Glu	Val	Tyr	Asp	Tyr	Asn	Gly
				85					90					95	
Lys	Ser	Tyr	Asn	Thr	Asp	Phe	Gly	Phe	Asn	Arg	Leu	Leu	Tyr	Arg	Asp
			100					105						110	
Ala	Lys	Arg	Lys	Thr	Tyr	Leu	Gly	Val	Lys	Leu	Trp	Met	Arg	Glu	Thr
		115					120					125			
Lys	Ser	Tyr	Ile	Asp	Asp	Ala	Glu	Leu	Thr	Val	Gln	Arg	Arg	Lys	Thr
	130					135					140				
Ala	Gly	Trp	Leu	Ala	Glu	Leu	Ser	His	Lys	Glu	Tyr	Ile	Gly	Arg	Ser
145					150					155					160
Thr	Ala	Asp	Phe	Lys	Leu	Lys	Tyr	Lys	Arg	Gly	Thr	Gly	Met	Lys	Asp
				165					170					175	
Ala	Leu	Arg	Ala	Pro	Glu	Glu	Ala	Phe	Gly	Glu	Gly	Thr	Ser	Arg	Met
			180					185						190	
Lys	Ile	Trp	Thr	Ala	Ser	Ala	Asp	Val	Asn	Thr	Pro	Phe	Gln	Ile	Gly
	195						200					205			
Lys	Gln	Leu	Phe	Ala	Tyr	Asp	Thr	Ser	Val	His	Ala	Gln	Trp	Asn	Lys
	210					215					220				
Thr	Pro	Leu	Thr	Ser	Gln	Asp	Lys	Leu	Ala	Ile	Gly	Gly	His	His	Thr
225					230					235					240
Val	Arg	Gly	Phe	Asp	Gly	Glu	Met	Ser	Leu	Ser	Ala	Glu	Arg	Gly	Trp
				245					250					255	
Tyr	Trp	Arg	Asn	Asp	Leu	Ser	Trp	Gln	Phe	Lys	Pro	Gly	His	Gln	Leu
			260					265						270	

Tyr Leu Gly Ala Asp Val Gly His Val Ser Gly Gln Ser Ala Lys Trp
 275 280 285

Leu Ser Gly Gln Thr Leu Val Gly Thr Ala Ile Gly Ile Arg Gly Gln
 290 295 300

Ile Lys Leu Gly Gly Asn Leu His Tyr Asp Ile Phe Thr Gly Arg Ala
 305 310 315 320

Leu Lys Lys Pro Glu Phe Phe Gln Ser Arg Lys Trp Ala Ser Gly Phe
 325 330 335

Gln Val Gly Tyr Thr Phe
 340

<210> 607
 <211> 1029
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 607
 atggataatt cgggtagtga ggcgacagga aaataccaag gaaatatcac tttctctgcc 60
 gacaatcctt ttggactgag tgatatgttc tatgtaaatt atggacgttc aattggcggt 120
 acgcccgatg aggaaaattht tgacggccat cgcaaagaag gcggatcaaa caattacgcc 180
 gtacattatt cagccccttt cggtaaatgg acatgggcat tcaatcacia tggctaccgt 240
 taccatcagg cgggtttccgg attatcggaa gtctatgact ataattggaaa aagttacaac 300
 actgattttcg gcttcaaccg cctgtttgtat cgtgatgcc aacgcaaaac ctatctcagt 360
 gtaaaactgt ggacgaggga aacaaaaagt tacattgatg atgccgaact gactgtacaa 420
 cggcgtaaaa ccacagggtg gttggcagaa ctttcccaca aaggatatat cggtcgcagt 480
 acggcagatt ttaagttgaa atataaacac ggcaccggca tgaaagatgc tctgcgcgcg 540
 cctgaagaag cctttggcga aggcacgtca cgtatgaaaa tttggacggc atcggctgat 600
 gtaataactc cttttcaa atcgtaaacag ctattttgcct atgacacatc cgttcattgca 660
 caatggaaca aaaccccgct aacatcgcaa gacaaaactgg ctatcggcgg acaccacacc 720
 gtacgtggct tcgacgggtg aatgagtttg cctgccgagc ggggatggta ttggcgcaac 780
 gatttgagct ggcaatttaa accaggccat cagctttatc ttggggctga ttaggacat 840
 gtttcaggac aatccgcca atggttatcg ggccaaactc tagccggcac agcaattggg 900
 atacgcgggc agataaagct tggcggaac ctgcattacg atatatattac cggccgtgca 960
 ttgaaaaagc ccgaatattt tcagacgaag aaatgggtaa cgggggtttca ggtgggttat 1020
 tcggttttga 1029

<210> 608
 <211> 342
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 608
 Met Asp Asn Ser Gly Ser Glu Ala Thr Gly Lys Tyr Gln Gly Asn Ile
 1 5 10 15

Thr Phe Ser Ala Asp Asn Pro Phe Gly Leu Ser Asp Met Phe Tyr Val
 20 25 30

Asn Tyr Gly Arg Ser Ile Gly Gly Thr Pro Asp Glu Glu Asn Phe Asp
 35 40 45

Gly His Arg Lys Glu Gly Gly Ser Asn Asn Tyr Ala Val His Tyr Ser

50	55	60
Ala Pro Phe Gly Lys Trp Thr Trp Ala Phe Asn His Asn Gly Tyr Arg 65 70 75 80		
Tyr His Gln Ala Val Ser Gly Leu Ser Glu Val Tyr Asp Tyr Asn Gly 85 90 95		
Lys Ser Tyr Asn Thr Asp Phe Gly Phe Asn Arg Leu Leu Tyr Arg Asp 100 105 110		
Ala Lys Arg Lys Thr Tyr Leu Ser Val Lys Leu Trp Thr Arg Glu Thr 115 120 125		
Lys Ser Tyr Ile Asp Asp Ala Glu Leu Thr Val Gln Arg Arg Lys Thr 130 135 140		
Thr Gly Trp Leu Ala Glu Leu Ser His Lys Gly Tyr Ile Gly Arg Ser 145 150 155 160		
Thr Ala Asp Phe Lys Leu Lys Tyr Lys His Gly Thr Gly Met Lys Asp 165 170 175		
Ala Leu Arg Ala Pro Glu Glu Ala Phe Gly Glu Gly Thr Ser Arg Met 180 185 190		
Lys Ile Trp Thr Ala Ser Ala Asp Val Asn Thr Pro Phe Gln Ile Gly 195 200 205		
Lys Gln Leu Phe Ala Tyr Asp Thr Ser Val His Ala Gln Trp Asn Lys 210 215 220		
Thr Pro Leu Thr Ser Gln Asp Lys Leu Ala Ile Gly Gly His His Thr 225 230 235 240		
Val Arg Gly Phe Asp Gly Glu Met Ser Leu Pro Ala Glu Arg Gly Trp 245 250 255		
Tyr Trp Arg Asn Asp Leu Ser Trp Gln Phe Lys Pro Gly His Gln Leu 260 265 270		
Tyr Leu Gly Ala Asp Val Gly His Val Ser Gly Gln Ser Ala Lys Trp 275 280 285		
Leu Ser Gly Gln Thr Leu Ala Gly Thr Ala Ile Gly Ile Arg Gly Gln 290 295 300		
Ile Lys Leu Gly Gly Asn Leu His Tyr Asp Ile Phe Thr Gly Arg Ala 305 310 315 320		
Leu Lys Lys Pro Glu Tyr Phe Gln Thr Lys Lys Trp Val Thr Gly Phe 325 330 335		
Gln Val Gly Tyr Ser Phe 340		

<210> 609
 <211> 332
 <212> DNA
 <213> Neisseria meningitidis

<400> 609
 atgcggacga aatgggtcagc agtgagaagc tgcttacttg ggcggaacacc gccgacatcg 60
 ataccgcttt gaacctgttg taccgtttgc aaaaactcga attcctctat ggcgatgaaa 120
 acggtcattc agacggcatc aatttgwcgg acgagcaatt gccgttgctg atggaacaat 180
 tgtccggcag cggtaaggcg ttattgggtcg atcggaacgg tctgtatctt gccaacgcca 240
 atttccatca tgaggcggcg gaagagttgg ggttggtggc ggcagaagtc gcacagatgg 300
 aaaagaaata ccggtgctg attaagaaca ac 332

<210> 610
 <211> 110
 <212> PRT
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (49)..(49)
 <223> Xaa= any amino acid

<400> 610
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 1 5 10 15
 Ala Asp Ile Asp Thr Ala Leu Asn Leu Leu Tyr Arg Leu Gln Lys Leu
 20 25 30
 Glu Phe Leu Tyr Gly Asp Glu Asn Gly His Ser Asp Gly Ile Asn Leu
 35 40 45
 Xaa Asp Glu Gln Leu Pro Leu Leu Met Glu Gln Leu Ser Gly Ser Gly
 50 55 60
 Lys Ala Leu Leu Val Asp Arg Asn Gly Leu Tyr Leu Ala Asn Ala Asn
 65 70 75 80
 Phe His His Glu Ala Ala Glu Glu Leu Gly Leu Leu Ala Ala Glu Val
 85 90 95
 Ala Gln Met Glu Lys Lys Tyr Arg Leu Leu Ile Lys Asn Asn
 100 105 110

<210> 611
 <211> 645
 <212> DNA
 <213> Neisseria meningitidis

<400> 611
 atggaatcaa cactttcact acaagcaaatt ttatatcccc gcttgactcc tgccggtgca 60
 ttttatgccg tatccagcga tgccccagc gccggtaaaa ctttggtgca cagcctgttg 120
 aaagcagatg cggacgaaat ggtagcagc gagaagctgc ttacttgggc ggacaccgcc 180
 gacatcgata ccgctttgaa cctgtttgtac cgtttgcaaa aactcgaatt cctctatggc 240
 gatgaaaacg gtcattcaga cggcatcaat ttgtcggacg agcaattgcc gttgctgatg 300

gaacaattgt	ccggcagcgg	taaggcggtta	ttggtcgata	ggaacgggtct	gtatcttgcc	360
aacgccaatt	tccatcatga	ggcggcggaa	gagttggggg	tggtggcggc	agaagtcgca	420
cagatggaaa	agaaataccg	gctgctgatt	aagaacaacc	tgtatatcaa	caataacgct	480
tggggcgttt	gcgaccttc	cggtcagagc	gaattgacat	tttcccatt	gtatatcggt	540
tcaaccaa	ttatcttggt	tatcggcggc	attcccgatt	tgggcaaaga	ggcatttggt	600
actttggtta	ggattttata	ccgccgttac	agcaaccgcg	tgtaa		645

<210> 612
 <211> 214
 <212> PRT
 <213> Neisseria meningitidis

<400> 612

Met	Glu	Ser	Thr	Leu	Ser	Leu	Gln	Ala	Asn	Leu	Tyr	Pro	Arg	Leu	Thr
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Pro	Ala	Gly	Ala	Phe	Tyr	Ala	Val	Ser	Ser	Asp	Ala	Pro	Ser	Ala	Gly
			20					25					30		
Lys	Thr	Leu	Leu	His	Ser	Leu	Leu	Lys	Ala	Asp	Ala	Asp	Glu	Met	Val
		35					40					45			
Ser	Ser	Glu	Lys	Leu	Leu	Thr	Trp	Ala	Asp	Thr	Ala	Asp	Ile	Asp	Thr
	50					55					60				
Ala	Leu	Asn	Leu	Leu	Tyr	Arg	Leu	Gln	Lys	Leu	Glu	Phe	Leu	Tyr	Gly
65					70					75					80
Asp	Glu	Asn	Gly	His	Ser	Asp	Gly	Ile	Asn	Leu	Ser	Asp	Glu	Gln	Leu
				85					90					95	
Pro	Leu	Leu	Met	Glu	Gln	Leu	Ser	Gly	Ser	Gly	Lys	Ala	Leu	Leu	Val
			100					105						110	
Asp	Arg	Asn	Gly	Leu	Tyr	Leu	Ala	Asn	Ala	Asn	Phe	His	His	Glu	Ala
		115					120					125			
Ala	Glu	Glu	Leu	Gly	Leu	Leu	Ala	Ala	Glu	Val	Ala	Gln	Met	Glu	Lys
	130					135						140			
Lys	Tyr	Arg	Leu	Leu	Ile	Lys	Asn	Asn	Leu	Tyr	Ile	Asn	Asn	Asn	Ala
145					150					155					160
Trp	Gly	Val	Cys	Asp	Pro	Ser	Gly	Gln	Ser	Glu	Leu	Thr	Phe	Phe	Pro
			165						170					175	
Leu	Tyr	Ile	Gly	Ser	Thr	Lys	Phe	Ile	Leu	Val	Ile	Gly	Gly	Ile	Pro
		180						185					190		
Asp	Leu	Gly	Lys	Glu	Ala	Phe	Val	Thr	Leu	Val	Arg	Ile	Leu	Tyr	Arg
	195						200					205			
Arg	Tyr	Ser	Asn	Arg	Val										
	210														

<210> 613

<211> 684
<212> DNA
<213> *Neisseria meningitidis*

<220>
<221> misc_feature
<222> (13)..(13)
<223> N= Unknown

<220>
<221> misc_feature
<222> (38)..(38)
<223> N= Unknown

<220>
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<222> (83)..(83)
<223> N= Unknown

<220>
<221> misc_feature
<222> (144)..(144)
<223> N= Unknown

<220>
<221> misc_feature
<222> (174)..(174)
<223> N= Unknown

<220>
<221> misc_feature
<222> (446)..(447)
<223> N= Unknown

<220>
<221> misc_feature
<222> (615)..(615)
<223> N= Unknown

<220>
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<222> (623)..(623)
<223> N= Unknown

<220>
<221> misc_feature
<222> (626)..(626)
<223> N= Unknown

<220>
<221> misc_feature
<222> (663)..(663)
<223> N= Unknown

<400> 613
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aaagcggatg	cggacgaaat	ggtnagcagt	gagaagctgc	ttacctgggc	gganaccgcc	180
gacatcgata	ccgctttgaa	cctgtttgtac	cgtttgcaaa	aactcgaatt	cctctatggc	240
gatgaaaacg	gtcattcaga	cggcatcaat	ttgtcggacg	agcaattgcc	gttgctgatg	300
gaacaattgt	ccggcagcgg	taaggcgtaa	ttggtcgatc	ggaacggctc	gtatcttgcc	360
aacgccaatt	tccatcatga	ggcggcggaa	gagttggggg	tggtggcggc	agaagtcgca	420
cagatggaaa	agaaataccg	gctgcnnatt	aagaacaacc	tgtatatcaa	caataacgct	480
tggggcggtt	gcgatccttc	cggtcagagc	gaattgacat	ttttcccatt	gtatatcggt	540
tcaaccaaat	ttattttggt	tatcggcggc	attcccgaat	tgggcaaaga	ggcatttggt	600
actttggtaa	ggatnttata	ccnccngtta	cagcaaccgc	gtgtaaaact	tgggagagag	660
gangggttat	gcagcaatta	ttga				684

<210> 614
 <211> 227
 <212> PRT
 <213> *Neisseria meningitidis*

<220>
 <221> misc_feature
 <222> (5)..(5)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (13)..(13)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (28)..(28)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (58)..(58)
 <223> Xaa= any amino acid

<220>
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 <222> (149)..(149)
 <223> Xaa= any amino acid

<220>
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 <222> (205)..(205)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (208)..(209)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (221)..(221)
 <223> Xaa= any amino acid

<400> 614
 Met Glu Ser Thr Xaa Ser Leu Gln Ala Asn Leu Tyr Xaa Arg Leu Thr
 1 5 10 15
 Pro Ala Gly Ala Phe Tyr Ala Val Ser Ser Asp Xaa Pro Ser Ala Gly
 20 25 30
 Lys Thr Leu Leu His Ser Leu Leu Lys Ala Asp Ala Asp Glu Met Val
 35 40 45
 Ser Ser Glu Lys Leu Leu Thr Trp Ala Xaa Thr Ala Asp Ile Asp Thr
 50 55 60
 Ala Leu Asn Leu Leu Tyr Arg Leu Gln Lys Leu Glu Phe Leu Tyr Gly
 65 70 75 80
 Asp Glu Asn Gly His Ser Asp Gly Ile Asn Leu Ser Asp Glu Gln Leu
 85 90 95
 Pro Leu Leu Met Glu Gln Leu Ser Gly Ser Gly Lys Ala Leu Leu Val
 100 105 110
 Asp Arg Asn Gly Leu Tyr Leu Ala Asn Ala Asn Phe His His Glu Ala
 115 120 125
 Ala Glu Glu Leu Gly Leu Leu Ala Ala Glu Val Ala Gln Met Glu Lys
 130 135 140
 Lys Tyr Arg Leu Xaa Ile Lys Asn Asn Leu Tyr Ile Asn Asn Asn Ala
 145 150 155 160
 Trp Gly Val Cys Asp Pro Ser Gly Gln Ser Glu Leu Thr Phe Phe Pro
 165 170 175
 Leu Tyr Ile Gly Ser Thr Lys Phe Ile Leu Val Ile Gly Gly Ile Pro
 180 185 190
 Asp Leu Gly Lys Glu Ala Phe Val Thr Leu Val Arg Xaa Leu Tyr Xaa
 195 200 205
 Xaa Leu Gln Gln Pro Arg Val Lys Leu Gly Arg Glu Xaa Gly Leu Cys
 210 215 220

Ser Asn Tyr
 225

<210> 615
 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

<220>
 <221> misc_feature
 <222> (1)..(8)
 <223> N= Unknown

<400> 615
nnnnnnnnn

8

<210> 616
<211> 298
<212> PRT
<213> Neisseria gonorrhoeae

<400> 616
Met Arg Thr Lys Trp Ser Ala Val Arg Ser Cys Ser Arg Ala Asp Thr
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Ala Asp Ile Asp Thr Ala Leu Asn Leu Leu Tyr Arg Leu Gln Lys Leu
20 25 30
Glu Phe Leu Tyr Gly Asp Glu Asn Gly His Ser Asp Gly Ile Asn Leu
35 40 45
Ser Asp Glu Gln Leu Pro Leu Leu Met Glu Gln Leu Ser Gly Ser Gly
50 55 60
Lys Ala Leu Leu Val Asp Arg Asn Gly Leu Tyr Leu Ala Asn Ala Asn
65 70 75 80
Phe His His Glu Ser Ala Glu Glu Leu Gly Leu Leu Ala Ala Glu Val
85 90 95
Ala Gln Met Glu Lys Lys Tyr Arg Leu Leu Ile Arg Asn Asn Leu Tyr
100 105 110
Ile Asn Asn Asn Ala Trp Gly Val Cys Asp Pro Ser Gly Gln Ser Glu
115 120 125
Leu Thr Phe Phe Pro Leu Tyr Ile Gly Ser Thr Lys Phe Ile Leu Val
130 135 140
Ile Ala Gly Ile Pro Asp Leu Ser Lys Gly Gly Ile Cys Tyr Phe Gly
145 150 155 160
Lys Asp Phe Ile Pro Pro Leu Gln Gln Pro Arg Val Lys Leu Gly Thr
165 170 175
Gly Gly Ile Met Arg Gln Leu Leu Ile Ser Ile Leu Glu Asp Leu Asn
180 185 190
Asn Thr Ser Thr Asp Ile Ile Ala Ser Ala Val Ile Ser Thr Asp Gly
195 200 205
Leu Pro Met Ala Thr Met Leu Pro Ser His Leu Asn Ser Asp Arg Val
210 215 220
Gly Ala Ile Ser Ala Thr Leu Leu Ala Leu Gly Ser Arg Ser Val Gln
225 230 235 240
Glu Leu Ala Cys Gly Glu Leu Glu Gln Val Met Ile Lys Gly Lys Ser
245 250 255

Gly Tyr Ile Leu Leu Ser Gln Ala Gly Lys Asp Ala Val Leu Val Leu
260 265 270

Val Ala Lys Glu Thr Gly Arg Leu Gly Leu Ile Leu Leu Asp Ala Lys
275 280 285

Arg Ala Ala Arg His Ile Ala Glu Ala Ile
290 295

<210> 617
<211> 642
<212> DNA
<213> Neisseria gonorrhoeae

<400> 617
atggaatcaa cacttttcaact acaagcgaat ttatatccct gcctgactcc tgccggtgca 60
ttttatgccg tatccagcga tgccccagcgt gccggtaaaa ctttggttgcg cagcctgttg 120
aaagcggatg cggacgaagt ggtcagcagt gagaagctgc tcgcggcgga caccgccgac 180
atcgataccg ctttgaacct gttgtaccgt ttgcaaaaac tcgaattcct ctatggcgat 240
gaaaacggtc attcagacgg catcaatttg tcggacgagc aattgccgtt gctgatggaa 300
caattgtccg gcagcggtaa ggcattattg gtcgatcgga acgggtctgta tcttgccaac 360
gccaaatttc atcatgagtc ggcggaagag ttgggggttg tggcggcaga agtcgcacag 420
atggaaaaga aataccggct gctgattagg aacaacctgt atatcaaca taacgcttg 480
ggcgtttgcg atccttcggt tcagagcgaa ttgacatttt tccattgta tatcggttca 540
accaaattta ttttggttat cgccggcatt cccgatttga gcaaagaggc atttggttact 600
ttggttaagga ttttataccg ccgttacagc aaccgcgtgt aa 642

<210> 618
<211> 213
<212> PRT
<213> Neisseria gonorrhoeae

<400> 618
Met Glu Ser Thr Leu Ser Leu Gln Ala Asn Leu Tyr Pro Cys Leu Thr
1 5 10 15
Pro Ala Gly Ala Phe Tyr Ala Val Ser Ser Asp Ala Pro Ser Ala Gly
20 25 30
Lys Thr Leu Leu Arg Ser Leu Leu Lys Ala Asp Ala Asp Glu Val Val
35 40 45
Ser Ser Glu Lys Leu Leu Ala Ala Asp Thr Ala Asp Ile Asp Thr Ala
50 55 60
Leu Asn Leu Leu Tyr Arg Leu Gln Lys Leu Glu Phe Leu Tyr Gly Asp
65 70 75 80
Glu Asn Gly His Ser Asp Gly Ile Asn Leu Ser Asp Glu Gln Leu Pro
85 90 95
Leu Leu Met Glu Gln Leu Ser Gly Ser Gly Lys Ala Leu Leu Val Asp
100 105 110
Arg Asn Gly Leu Tyr Leu Ala Asn Ala Asn Phe His His Glu Ser Ala
115 120 125

Glu Glu Leu Gly Leu Leu Ala Ala Glu Val Ala Gln Met Glu Lys Lys
130 135 140

Tyr Arg Leu Leu Ile Arg Asn Asn Leu Tyr Ile Asn Asn Asn Ala Trp
145 150 155 160

Gly Val Cys Asp Pro Ser Gly Gln Ser Glu Leu Thr Phe Phe Pro Leu
165 170 175

Tyr Ile Gly Ser Thr Lys Phe Ile Leu Val Ile Ala Gly Ile Pro Asp
180 185 190

Leu Ser Lys Glu Ala Phe Val Thr Leu Val Arg Ile Leu Tyr Arg Arg
195 200 205

Tyr Ser Asn Arg Val
210

<210> 619
<211> 408
<212> DNA
<213> Neisseria meningitidis

<400> 619
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acgacgtgc tggcactcgt ccccggtgctg accgtgatgg tggcggtcgc ttcgattttc 180
cccggtgttc accgctgggc ggattcgttc gtctccttcg tcaaccaaac cattgtgccg 240
caggcgcgga catggtgttc gactatatca atgcgttccg cgagcaggcg aaccggctga 300
cggcaatcgg cagcgtgatg ctggtcgtta cctcgtgat gctgattcgg acgatagaca 360
atacgttcaa cgcacatctg acgggtcaaw tyccagcgtc cgtggatg 408

<210> 620
<211> 136
<212> PRT
<213> Neisseria meningitidis

<220>
<221> misc_feature
<222> (34)..(34)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (81)..(81)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (130)..(131)
<223> Xaa= any amino acid

<400> 620
Met Thr Phe Leu Gln Arg Leu Gln Gly Leu Ala Asp Asn Lys Ile Cys
1 5 10 15

Ala Phe Ala Trp Phe Val Val Arg Arg Phe Asp Glu Glu Arg Val Pro
20 25 30

Gln Xaa Ala Ala Ser Met Thr Phe Thr Thr Leu Leu Ala Leu Val Pro
35 40 45

Val Leu Thr Val Met Val Ala Val Ala Ser Ile Phe Pro Val Phe Asp
50 55 60

Arg Trp Ser Asp Ser Phe Val Ser Phe Val Asn Gln Thr Ile Val Pro
65 70 75 80

Xaa Gly Ala Asp Met Val Phe Asp Tyr Ile Asn Ala Phe Arg Glu Gln
85 90 95

Ala Asn Arg Leu Thr Ala Ile Gly Ser Val Met Leu Val Val Thr Ser
100 105 110

Leu Met Leu Ile Arg Thr Ile Asp Asn Thr Phe Asn Arg Ile Trp Arg
115 120 125

Val Xaa Xaa Gln Arg Pro Trp Met
130 135

<210> 621
<211> 1221
<212> DNA
<213> Neisseria meningitidis

<400> 621
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acgacgctgc tggcactcgt ccccgctgctg accgtgatgg tggcggtcgc ttcgattttc 180
cccgtgttcg accgctggtc ggattcgttc gtctccttcg tcaaccaaac cattgtgccg 240
cagggcgcg gacatggtgtt cgactatata aatgcgttcc gcgagcaggc gaaccggctg 300
acggcaatcg gcagcgtgat gctggtcgtt acctcgtgta tgctgattcg gacgatagac 360
aatacgttca accgcactctg gcgggtcaat tcccagcgtc cgtggatgat gcagtttctc 420
gtctattggg ctttactgac gttcgggccc ctgtcttttg gcgtgggcat ttcctttatg 480
gtcggctcgg tacaggatgc cgcgcttgcc tcaggtgcgc cgcagtggtc gggcgcggtg 540
cgaacggcgg cgacgctgac cttcatgacg cttttgctgt gggggctgta ccgcttcgtg 600
ccaaaccgct tcgttcccgc gcggcaggcg tttgtcgggg ctttggcaac agcgttttgt 660
ctggaaaccg cgcgctccct cttcacttgg tatatgggca atttcgacgg ctaccgctcg 720
atttacggcg cgtttgccgc cgtgccgttt tttctgttgt ggctgaacct gttgtggacg 780
ctggtcttgg gcggcgcggt gctgacttct tcaactctct actggcaggg agaagcggtc 840
cgcaggggct tcgactcgcg cggacgggtt gacgacgtgt tgaaaatcct gctgcttctg 900
gatgcggcgc aaaaagaagg caaagccttg cctgttcagg agttcagacg gcataatcaat 960
atgggctacg acgagttggg cgagcttttg gaaaagctgg cgcggcacgg ctacatctat 1020
tccggcagac aggggttgggt gttgaaaacg gggcggtatt cgattgagtt gaacgaactc 1080
ttcaagctct tcgtttaccg tccgttgccct gtggaaaggg atcatgtgaa ccaagctgtc 1140
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caggcgaaaa aacggcagta g 1221

<210> 622
<211> 406
<212> PRT
<213> Neisseria meningitidis

<400> 622

Met Thr Phe Leu Gln Arg Leu Gln Gly Leu Ala Asp Asn Lys Ile Cys
1 5 10 15

Ala Phe Ala Trp Phe Val Val Arg Arg Phe Asp Glu Glu Arg Val Pro
20 25 30

Gln Ala Ala Ala Ser Met Thr Phe Thr Thr Leu Leu Ala Leu Val Pro
35 40 45

Val Leu Thr Val Met Val Ala Val Ala Ser Ile Phe Pro Val Phe Asp
50 55 60

Arg Trp Ser Asp Ser Phe Val Ser Phe Val Asn Gln Thr Ile Val Pro
65 70 75 80

Gln Gly Ala Asp Met Val Phe Asp Tyr Ile Asn Ala Phe Arg Glu Gln
85 90 95

Ala Asn Arg Leu Thr Ala Ile Gly Ser Val Met Leu Val Val Thr Ser
100 105 110

Leu Met Leu Ile Arg Thr Ile Asp Asn Thr Phe Asn Arg Ile Trp Arg
115 120 125

Val Asn Ser Gln Arg Pro Trp Met Met Gln Phe Leu Val Tyr Trp Ala
130 135 140

Leu Leu Thr Phe Gly Pro Leu Ser Leu Gly Val Gly Ile Ser Phe Met
145 150 155 160

Val Gly Ser Val Gln Asp Ala Ala Leu Ala Ser Gly Ala Pro Gln Trp
165 170 175

Ser Gly Ala Leu Arg Thr Ala Ala Thr Leu Thr Phe Met Thr Leu Leu
180 185 190

Leu Trp Gly Leu Tyr Arg Phe Val Pro Asn Arg Phe Val Pro Ala Arg
195 200 205

Gln Ala Phe Val Gly Ala Leu Ala Thr Ala Phe Cys Leu Glu Thr Ala
210 215 220

Arg Ser Leu Phe Thr Trp Tyr Met Gly Asn Phe Asp Gly Tyr Arg Ser
225 230 235 240

Ile Tyr Gly Ala Phe Ala Ala Val Pro Phe Phe Leu Leu Trp Leu Asn
245 250 255

Leu Leu Trp Thr Leu Val Leu Gly Gly Ala Val Leu Thr Ser Ser Leu
260 265 270

Ser Tyr Trp Gln Gly Glu Ala Phe Arg Arg Gly Phe Asp Ser Arg Gly
275 280 285

Arg Phe Asp Asp Val Leu Lys Ile Leu Leu Leu Leu Asp Ala Ala Gln

<223> N= Unknown

<220>

<221> misc_feature

<222> (627)..(627)

<223> N= Unknown

<220>

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<222> (729)..(729)

<223> N= Unknown

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<221> misc_feature

<222> (848)..(848)

<223> N= Unknown

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<222> (922)..(922)

<223> N= Unknown

<400> 623

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acgacactgc	tggcaactcg	ccccgtgctg	accgtgatgg	tggcggtcgc	ttcgattttc	180
cccgtgttcg	accgntgggc	ggattcgttc	gtctccttcg	tcaaccaaac	cattgtgccg	240
cagggcgccg	acatggtntt	cgactatatc	aatgcgttcc	gcgagcaggc	gaaccggctg	300
acggcaatcg	gcagcgtgat	gctggtcggt	acctcgcnga	tgctgattcg	gacgatagac	360
aatacgttca	accgcatctg	gcgggtcaat	tcccagcgtc	cgtggatgat	gcagtttctc	420
gtctattggg	ctttactgac	gttcggggccg	ctgtcttttg	gcgtgggcat	ttcctttatn	480
gtcggctcgg	tacaggatgc	cgcgcttgcc	tcagggtgcgc	cgcagtggtc	gggcgcgctg	540
cgaacggcgg	cgacgctgan	cttcatgacg	cttttgctgt	gggggctgta	ccgctncgtg	600
ccaaaccgct	tcgttcccgc	gcggcangcg	tttgtcgggg	ctttggcaac	agcgttctgt	660
ctggaaaccg	cgcgttccct	ctttactttg	tatatgggca	atttcgacgg	ctaccgctcg	720
atttacggng	cgtttgccgc	cgtgccgttt	tttctgttgt	ggctgaacct	gttgtggacg	780
ctgggtcttg	gcggcgccgt	gctgacttct	tcactctcct	actggcaggg	agaagcgttc	840
cgcagggnct	tcgactcgcg	cggacggttt	gacgacgtgt	tgaaaatcct	gctgcttctg	900
gatgcggcgc	aaaaagaagg	cnaagccttg	cctgttcagg	agttcagacg	gcatatcaat	960
atgggctacg	acgagttggg	cgagcttttg	gaaaagctgg	cgcggcacgg	ctacatctat	1020
tccggcagac	agggttgggt	gttgaaaacg	ggggcggatt	cgattgagtt	gaacgaactc	1080
ttcaagctct	tcgtttaccg	tccgttgcc	gtggaaaggg	atcatgtgaa	ccaagctgtc	1140
gatgcggtaa	tgatgccgtg	tttgagact	ttgaacatga	cgtggcaga	gtttgacgct	1200
caggcgaaaa	aacagcagca	atcttga				1227

<210> 624

<211> 408

<212> PRT

<213> Neisseria meningitidis

<220>

<221> misc_feature

<222> (113)..(113)

<223> Xaa= any amino acid

<220>

<221> misc_feature
<222> (160)..(160)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (187)..(187)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (199)..(199)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (209)..(209)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (283)..(283)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (308)..(308)
<223> Xaa= any amino acid

<400> 624

Met Thr Phe Leu Gln Arg Leu Gln Gly Leu Ala Asp Asn Lys Ile Cys
1 5 10 15

Ala Phe Ala Trp Phe Val Val Arg Arg Phe Asp Glu Glu Arg Val Pro
20 25 30

Gln Ala Ala Ala Ser Met Thr Phe Thr Thr Leu Leu Ala Leu Val Pro
35 40 45

Val Leu Thr Val Met Val Ala Val Ala Ser Ile Phe Pro Val Phe Asp
50 55 60

Arg Trp Ser Asp Ser Phe Val Ser Phe Val Asn Gln Thr Ile Val Pro
65 70 75 80

Gln Gly Ala Asp Met Val Phe Asp Tyr Ile Asn Ala Phe Arg Glu Gln
85 90 95

Ala Asn Arg Leu Thr Ala Ile Gly Ser Val Met Leu Val Val Thr Ser
100 105 110

Xaa Met Leu Ile Arg Thr Ile Asp Asn Thr Phe Asn Arg Ile Trp Arg
115 120 125

Val Asn Ser Gln Arg Pro Trp Met Met Gln Phe Leu Val Tyr Trp Ala
130 135 140

Leu Leu Thr Phe Gly Pro Leu Ser Leu Gly Val Gly Ile Ser Phe Xaa
 145 150 155 160
 Val Gly Ser Val Gln Asp Ala Ala Leu Ala Ser Gly Ala Pro Gln Trp
 165 170 175
 Ser Gly Ala Leu Arg Thr Ala Ala Thr Leu Xaa Phe Met Thr Leu Leu
 180 185 190
 Leu Trp Gly Leu Tyr Arg Xaa Val Pro Asn Arg Phe Val Pro Ala Arg
 195 200 205
 Xaa Ala Phe Val Gly Ala Leu Ala Thr Ala Phe Cys Leu Glu Thr Ala
 210 215 220
 Arg Ser Leu Phe Thr Trp Tyr Met Gly Asn Phe Asp Gly Tyr Arg Ser
 225 230 235 240
 Ile Tyr Gly Ala Phe Ala Ala Val Pro Phe Phe Leu Leu Trp Leu Asn
 245 250 255
 Leu Leu Trp Thr Leu Val Leu Gly Gly Ala Val Leu Thr Ser Ser Leu
 260 265 270
 Ser Tyr Trp Gln Gly Glu Ala Phe Arg Arg Xaa Phe Asp Ser Arg Gly
 275 280 285
 Arg Phe Asp Asp Val Leu Lys Ile Leu Leu Leu Leu Asp Ala Ala Gln
 290 295 300
 Lys Glu Gly Xaa Ala Leu Pro Val Gln Glu Phe Arg Arg His Ile Asn
 305 310 315 320
 Met Gly Tyr Asp Glu Leu Gly Glu Leu Leu Glu Lys Leu Ala Arg His
 325 330 335
 Gly Tyr Ile Tyr Ser Gly Arg Gln Gly Trp Val Leu Lys Thr Gly Ala
 340 345 350
 Asp Ser Ile Glu Leu Asn Glu Leu Phe Lys Leu Phe Val Tyr Arg Pro
 355 360 365
 Leu Pro Val Glu Arg Asp His Val Asn Gln Ala Val Asp Ala Val Met
 370 375 380
 Met Pro Cys Leu Gln Thr Leu Asn Met Thr Leu Ala Glu Phe Asp Ala
 385 390 395 400
 Gln Ala Lys Lys Gln Gln Gln Ser
 405

<210> 625

<211> 8

<212> DNA

<213> *Neisseria gonorrhoeae*

<220>
 <221> misc_feature
 <222> (1)..(8)
 <223> N= Unknown

<400> 625
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8

<210> 626
 <211> 408
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 626
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 Ala Phe Ala Trp Phe Val Ile Arg Arg Phe Ser Glu Glu Arg Val Pro
 20 25 30
 Gln Ala Ala Ala Ser Met Thr Phe Thr Thr Leu Leu Ala Leu Val Pro
 35 40 45
 Val Leu Thr Val Met Val Ala Val Ala Ser Ile Phe Pro Val Phe Asp
 50 55 60
 Arg Trp Ser Asp Ser Phe Val Ser Phe Val Asn Gln Thr Ile Val Pro
 65 70 75 80
 Gln Gly Ala Asp Met Val Phe Asp Tyr Ile Asp Ala Phe Arg Asp Gln
 85 90 95
 Ala Asn Arg Leu Thr Ala Ile Gly Ser Val Met Leu Val Val Thr Ser
 100 105 110
 Leu Met Leu Ile Arg Thr Ile Asp Asn Ala Phe Asn Arg Ile Trp Arg
 115 120 125
 Val Asn Thr Gln Arg Pro Trp Met Met Gln Phe Leu Val Tyr Trp Ala
 130 135 140
 Leu Leu Thr Phe Gly Pro Leu Ser Leu Gly Val Gly Ile Ser Phe Met
 145 150 155 160
 Val Gly Ser Val Gln Asp Ser Val Leu Ser Ser Gly Ala Gln Gln Trp
 165 170 175
 Ala Asp Ala Leu Lys Thr Ala Ala Arg Leu Ala Phe Met Thr Leu Leu
 180 185 190
 Leu Trp Gly Leu Tyr Arg Phe Val Pro Asn Arg Phe Val Pro Ala Arg
 195 200 205
 Gln Ala Phe Val Gly Ala Leu Ile Thr Ala Phe Cys Leu Glu Thr Ala
 210 215 220

Arg Phe Leu Phe Thr Trp Tyr Met Gly Asn Phe Asp Gly Tyr Arg Ser
 225 230 235 240
 Ile Tyr Gly Ala Phe Ala Ala Val Pro Phe Phe Leu Leu Trp Leu Asn
 245 250 255
 Leu Leu Trp Thr Leu Val Leu Gly Gly Ala Val Leu Thr Ser Ser Leu
 260 265 270
 Ser Tyr Trp Gln Gly Glu Ala Phe Arg Arg Gly Phe Asp Ser Arg Gly
 275 280 285
 Arg Phe Asp Asp Val Leu Lys Ile Leu Leu Leu Leu Asp Ala Ala Gln
 290 295 300
 Lys Glu Gly Arg Thr Leu Ser Val Gln Glu Phe Arg Arg His Ile Asn
 305 310 315 320
 Met Gly Tyr Asp Glu Leu Gly Glu Leu Leu Glu Lys Leu Ala Arg Tyr
 325 330 335
 Gly Tyr Ile Tyr Ser Gly Arg Gln Gly Trp Val Leu Lys Thr Gly Ala
 340 345 350
 Asp Ser Ile Glu Leu Ser Glu Leu Phe Lys Leu Phe Val Tyr Arg Pro
 355 360 365
 Leu Pro Val Glu Arg Asp His Val Asn Gln Ala Val Asp Ala Val Met
 370 375 380
 Thr Pro Cys Leu Gln Thr Leu Asn Met Thr Leu Ala Glu Phe Asp Ala
 385 390 395 400
 Gln Ala Lys Lys Gln Gln Gln Ser
 405

<210> 627
 <211> 1227
 <212> DNA
 <213> *Neisseria gonorrhoeae*

<400> 627
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 acgacactgc tggcactcgt ccccgactg accgtaatgg tcgcggtcgc ttcgattttc 180
 cccgtgttcg accgctgggc ggattcgttc gtctccttcg tcaaccaaac cattgtgccg 240
 cagggcgcg ataggtgtt cgactatata gacgcattcc gcgatcaggc aaaccggctg 300
 accgccatcg gcagcgtgat gctggtcgta acctcgctga tgctgattcg gacgatagac 360
 aatgcgttca accgcatctg gcgggttaac acgcaacgcc cctggatgat gcagttcctc 420
 gtttattggg cggttctgac ttccgggcct ttgtcttttg gtgtgggcat ttcctttatg 480
 gtcgggtcgg ttcaagactc cgtactctcc tccggagcgc aacaatgggc ggacgcgttg 540
 aagacggcgg caaggctggc ttcatgacg cttttgctgt gggggctgta ccgcttcgtg 600
 cccaaccgct tcgtgcccgc ccggcaggcg tttgtcggag ctttgattac ggcattctgc 660
 ctggagacgg cacgtttcct gttcacctgg tatatgggca atttcgacgg ctaccgctcg 720
 atttacggcg catttgccgc cgtgccgttt ttctgtctgt ggttaaacct gctgtggacg 780
 ctggtcttg gcggggcggt gctgacttcg tcgctgtctt attggcaggg cgaggccttc 840

cgcaggggat	tcgactcgcg	cggacgggtt	gacgacgtgt	tgaaaatcct	gctgcttctg	900
gatgcggcgc	aaaaagaagg	ccgaaccctg	tccgttcagg	agttcagacg	gcataatcaat	960
atgggttacg	atgaattggg	cgagcttttg	gaaaagctgg	cgcggtacgg	ctatatctat	1020
tccggcagac	agggctgggt	tttgaaaacg	ggggcggatt	cgattgagtt	gagcgaactc	1080
ttcaagctct	tcgtgtaccg	cccgttgctt	gtggaaaggg	atcatgtgaa	ccaagctgtc	1140
gatgcggtaa	tgacgccgtg	tttgcagact	ttgaacatga	cgctggcgga	gtttgacgct	1200
caggcgaaaa	aacagcagca	gtcttga				1227

<210> 628

<211> 408

<212> PRT

<213> Neisseria gonorrhoeae

<400> 628

Met	Thr	Phe	Leu	Gln	Arg	Trp	Gln	Gly	Leu	Ala	Asp	Asn	Lys	Ile	Cys
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		20					25						30		
Gln	Ala	Ala	Ala	Ser	Met	Thr	Phe	Thr	Thr	Leu	Leu	Ala	Leu	Val	Pro
	35						40					45			
Val	Leu	Thr	Val	Met	Val	Ala	Val	Ala	Ser	Ile	Phe	Pro	Val	Phe	Asp
	50				55						60				
Arg	Trp	Ser	Asp	Ser	Phe	Val	Ser	Phe	Val	Asn	Gln	Thr	Ile	Val	Pro
65				70						75					80
Gln	Gly	Ala	Asp	Met	Val	Phe	Asp	Tyr	Ile	Asp	Ala	Phe	Arg	Asp	Gln
				85					90					95	
Ala	Asn	Arg	Leu	Thr	Ala	Ile	Gly	Ser	Val	Met	Leu	Val	Val	Thr	Ser
			100					105						110	
Leu	Met	Leu	Ile	Arg	Thr	Ile	Asp	Asn	Ala	Phe	Asn	Arg	Ile	Trp	Arg
	115						120					125			
Val	Asn	Thr	Gln	Arg	Pro	Trp	Met	Met	Gln	Phe	Leu	Val	Tyr	Trp	Ala
	130					135					140				
Leu	Leu	Thr	Phe	Gly	Pro	Leu	Ser	Leu	Gly	Val	Gly	Ile	Ser	Phe	Met
145				150					155						160
Val	Gly	Ser	Val	Gln	Asp	Ser	Val	Leu	Ser	Ser	Gly	Ala	Gln	Gln	Trp
			165					170						175	
Ala	Asp	Ala	Leu	Lys	Thr	Ala	Ala	Arg	Leu	Ala	Phe	Met	Thr	Leu	Leu
		180						185					190		
Leu	Trp	Gly	Leu	Tyr	Arg	Phe	Val	Pro	Asn	Arg	Phe	Val	Pro	Ala	Arg
	195						200						205		
Gln	Ala	Phe	Val	Gly	Ala	Leu	Ile	Thr	Ala	Phe	Cys	Leu	Glu	Thr	Ala
	210					215					220				

Arg Phe Leu Phe Thr Trp Tyr Met Gly Asn Phe Asp Gly Tyr Arg Ser
 225 230 235 240
 Ile Tyr Gly Ala Phe Ala Ala Val Pro Phe Phe Leu Leu Trp Leu Asn
 245 250 255
 Leu Leu Trp Thr Leu Val Leu Gly Gly Ala Val Leu Thr Ser Ser Leu
 260 265 270
 Ser Tyr Trp Gln Gly Glu Ala Phe Arg Arg Gly Phe Asp Ser Arg Gly
 275 280 285
 Arg Phe Asp Asp Val Leu Lys Ile Leu Leu Leu Leu Asp Ala Ala Gln
 290 295 300
 Lys Glu Gly Arg Thr Leu Ser Val Gln Glu Phe Arg Arg His Ile Asn
 305 310 315 320
 Met Gly Tyr Asp Glu Leu Gly Glu Leu Leu Glu Lys Leu Ala Arg Tyr
 325 330 335
 Gly Tyr Ile Tyr Ser Gly Arg Gln Gly Trp Val Leu Lys Thr Gly Ala
 340 345 350
 Asp Ser Ile Glu Leu Ser Glu Leu Phe Lys Leu Phe Val Tyr Arg Pro
 355 360 365
 Leu Pro Val Glu Arg Asp His Val Asn Gln Ala Val Asp Ala Val Met
 370 375 380
 Thr Pro Cys Leu Gln Thr Leu Asn Met Thr Leu Ala Glu Phe Asp Ala
 385 390 395 400
 Gln Ala Lys Lys Gln Gln Ser
 405

<210> 629
 <211> 228
 <212> DNA
 <213> Neisseria meningitidis

<400> 629
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 atttccgccc tcgtcatcct gctgcaacgc acccgccgca aatggctgga tgcccacgaa 180
 cgccaacacc tgcgccaaag cctgcttgaa acacgggaac acggctga 228

<210> 630
 <211> 75
 <212> PRT
 <213> Neisseria meningitidis

<400> 630
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 20 25 30

Leu Ser Thr Asp Met Arg Gln Glu Ile Ser Ala Leu Val Ile Leu Leu
 35 40 45

Gln Arg Thr Arg Arg Lys Trp Leu Asp Ala His Glu Arg Gln His Leu
 50 55 60

Arg Gln Ser Leu Leu Glu Thr Arg Glu His Gly
 65 70 75

<210> 631
 <211> 1128
 <212> DNA
 <213> Neisseria meningitidis

<400> 631
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 cgctaccgcc gcctcatcca cgccgtccgg ctccggcggg ccgtcctggt cgccaccgcc 120
 tccgcccggc tgcctcacct ccaacacggc gaggggatag ggatgaccgt cttcgtcgtc 180
 ctccggcatgc tccagtttca aggggcgatt tactccaagg cgggtggaacg tatgctcggc 240
 acggctcatcg ggctggggcg gggtttgggc gttttatggc tgaaccagca ttatttccac 300
 ggcaacctcc tcttctacct caccgtcggc acggcaagcg cactggccgg ctgggcggcg 360
 gtcggcaaaa acggctacgt ccctatgctg gcagggctga cgatgtgtat gctcatcggc 420
 gacaacggca gcgaatggct cgacagcgga ctcatgcgcg ccatgaacgt cctcatcggc 480
 gcggccatcg ccctcgcgcg cgccaaactg ctgccgctga aatccacact gatgtggcgt 540
 ttcctgcttg ccgacaacct ggccgactgc agcaaaatga ttgccgaaat cagcaacggc 600
 aggcgcatga cccgcgaacg cctcgaggag aacatggcga aaatgcgcca aatcaacgca 660
 cgcctggtca aaagccgcag ccctctcgcc gccacatcgg gcgaaagccg catcagcccc 720
 gccatgatgg aagccatgca gcacgcccac cgtaaaatcg tcaacaccac cgagctgctc 780
 ctgaccaccg ccgccaagct gcaatctccc aaactcaacg gcagcgaaat ccggctgctt 840
 gaccgccact tcacactgct ccaaaccgac ctgcaacaaa ccgtcgccct tatcaacggc 900
 agacacgccc gccgcctcgc catcgacacc gccatcaacc ccgaactgga agccctcgcc 960
 gaacacctcc actaccaatg gcagggcttc ctctggtcga gcaccaatat gcgtcaggaa 1020
 atttcgccc tcgtcatcct gctgcaacgc acccgccgca aatggctgga tgccacgaa 1080
 cgccaacacc tgcgcgcaag cctgcttgaa acacgggaac acggctga 1128

<210> 632
 <211> 375
 <212> PRT
 <213> Neisseria meningitidis

<400> 632
 Met Asn Thr Ser Gln Arg Asn Arg Leu Val Ser Arg Trp Leu Asn Ser
 1 5 10 15

Tyr Glu Arg Tyr Arg Tyr Arg Arg Leu Ile His Ala Val Arg Leu Gly
 20 25 30

Gly Ala Val Leu Phe Ala Thr Ala Ser Ala Arg Leu Leu His Leu Gln
 35 40 45

His Gly Glu Trp Ile Gly Met Thr Val Phe Val Val Leu Gly Met Leu
 50 55 60

Gln	Phe	Gln	Gly	Ala	Ile	Tyr	Ser	Lys	Ala	Val	Glu	Arg	Met	Leu	Gly	65	70	75	80
Thr	Val	Ile	Gly	Leu	Gly	Ala	Gly	Leu	Gly	Val	Leu	Trp	Leu	Asn	Gln	85	90	95	
His	Tyr	Phe	His	Gly	Asn	Leu	Leu	Phe	Tyr	Leu	Thr	Val	Gly	Thr	Ala	100	105	110	
Ser	Ala	Leu	Ala	Gly	Trp	Ala	Ala	Val	Gly	Lys	Asn	Gly	Tyr	Val	Pro	115	120	125	
Met	Leu	Ala	Gly	Leu	Thr	Met	Cys	Met	Leu	Ile	Gly	Asp	Asn	Gly	Ser	130	135	140	
Glu	Trp	Leu	Asp	Ser	Gly	Leu	Met	Arg	Ala	Met	Asn	Val	Leu	Ile	Gly	145	150	155	160
Ala	Ala	Ile	Ala	Ile	Ala	Ala	Ala	Lys	Leu	Leu	Pro	Leu	Lys	Ser	Thr	165	170	175	
Leu	Met	Trp	Arg	Phe	Met	Leu	Ala	Asp	Asn	Leu	Ala	Asp	Cys	Ser	Lys	180	185	190	
Met	Ile	Ala	Glu	Ile	Ser	Asn	Gly	Arg	Arg	Met	Thr	Arg	Glu	Arg	Leu	195	200	205	
Glu	Glu	Asn	Met	Ala	Lys	Met	Arg	Gln	Ile	Asn	Ala	Arg	Met	Val	Lys	210	215	220	
Ser	Arg	Ser	His	Leu	Ala	Ala	Thr	Ser	Gly	Glu	Ser	Arg	Ile	Ser	Pro	225	230	235	240
Ala	Met	Met	Glu	Ala	Met	Gln	His	Ala	His	Arg	Lys	Ile	Val	Asn	Thr	245	250	255	
Thr	Glu	Leu	Leu	Leu	Thr	Thr	Ala	Ala	Lys	Leu	Gln	Ser	Pro	Lys	Leu	260	265	270	
Asn	Gly	Ser	Glu	Ile	Arg	Leu	Leu	Asp	Arg	His	Phe	Thr	Leu	Leu	Gln	275	280	285	
Thr	Asp	Leu	Gln	Gln	Thr	Val	Ala	Leu	Ile	Asn	Gly	Arg	His	Ala	Arg	290	295	300	
Arg	Ile	Arg	Ile	Asp	Thr	Ala	Ile	Asn	Pro	Glu	Leu	Glu	Ala	Leu	Ala	305	310	315	320
Glu	His	Leu	His	Tyr	Gln	Trp	Gln	Gly	Phe	Leu	Trp	Leu	Ser	Thr	Asn	325	330	335	
Met	Arg	Gln	Glu	Ile	Ser	Ala	Leu	Val	Ile	Leu	Leu	Gln	Arg	Thr	Arg	340	345	350	
Arg	Lys	Trp	Leu	Asp	Ala	His	Glu	Arg	Gln	His	Leu	Arg	Gln	Ser	Leu	355	360	365	

Leu Glu Thr Arg Glu His Gly
370 375

<210> 633
<211> 1128
<212> DNA
<213> Neisseria meningitidis

<400> 633
atgaacacct cgcaacgcaa ccgcctcgtc agccgctggc tcaactccta cgaacgctac 60
cgctaccgcc gcctcatcca cgccgtccgg ctccggcggg ccgtcctgtt cgccaccgcc 120
tccgcccggc tgctccacct ccaacacggc gagtggatag ggatgaccgt ctctcgtcgtc 180
ctcggcatgc tccagtttca aggggcgatt tactccaagg cgggtggaacg tatgctcggc 240
acggtcacgc ggctgggcgc gggtttgggc gttttatggc tgaaccagca ttattttccac 300
ggcaacctcc tcttctacct caccgtcggc acggcaagcg cactggccgg ctgggcggcg 360
gtcggcaaaa acggctacgt ccctatgctg gcggggctga cgatgtgcat gctcatcggc 420
gacaacggca gcgaatggtt cgacagcggc ctgatgcgcg cgatgaacgt cctcatcggc 480
gcgcccatcg ccctgcgcgc cgccaaactg ctgccgctga aatccacact gatgtggcgt 540
ttcatgcttg ccgacaacct gaccgactgc agcaaaatga ttgccgaaat cagcaacggc 600
aggcgcatga cccgcgaacg cctcgaagag aacatggcga aaatgcgcca aatcaacgca 660
cgcatggtca aaagccgcag ccacctcgcc gccacatcgg gcgaaagccg catcagcccc 720
gccatgatgg aagccatgca gcacgcccac cgtaaaattg tcaacaccac cgagctgctc 780
ctgaccaccg ccgccaagct gcaatctccc aaactcaacg gcagcgaaat ccggctgctt 840
gaccgccact tcacactgct ccaaaccgac ctgcaacaaa ccgtcgcctt tatcaacggc 900
agacacgccc gccgcacccg catcgacacc gccatcaacc ccgaactgga agccctcgcc 960
gaacacctcc actaccaatg gcagggcttc ctctggctca gcaccaatat gcgtcaggaa 1020
atttcgccc tcgtcatcct gctgcaacgc acccgccgca aatggctgga tgcccacgaa 1080
cgccaacacc tgcgccaag cctgcttgaa acacgggaac acagttga 1128

<210> 634
<211> 375
<212> PRT
<213> Neisseria meningitidis

<400> 634
Met Asn Thr Ser Gln Arg Asn Arg Leu Val Ser Arg Trp Leu Asn Ser
1 5 10 15
Tyr Glu Arg Tyr Arg Tyr Arg Arg Leu Ile His Ala Val Arg Leu Gly
20 25 30
Gly Ala Val Leu Phe Ala Thr Ala Ser Ala Arg Leu Leu His Leu Gln
35 40 45
His Gly Glu Trp Ile Gly Met Thr Val Phe Val Val Leu Gly Met Leu
50 55 60
Gln Phe Gln Gly Ala Ile Tyr Ser Lys Ala Val Glu Arg Met Leu Gly
65 70 75 80
Thr Val Ile Gly Leu Gly Ala Gly Leu Gly Val Leu Trp Leu Asn Gln
85 90 95
His Tyr Phe His Gly Asn Leu Leu Phe Tyr Leu Thr Val Gly Thr Ala
100 105 110

Ser Ala Leu Ala Gly Trp Ala Ala Val Gly Lys Asn Gly Tyr Val Pro
 115 120 125
 Met Leu Ala Gly Leu Thr Met Cys Met Leu Ile Gly Asp Asn Gly Ser
 130 135 140
 Glu Trp Phe Asp Ser Gly Leu Met Arg Ala Met Asn Val Leu Ile Gly
 145 150 155 160
 Ala Ala Ile Ala Ile Ala Ala Ala Lys Leu Leu Pro Leu Lys Ser Thr
 165 170 175
 Leu Met Trp Arg Phe Met Leu Ala Asp Asn Leu Thr Asp Cys Ser Lys
 180 185 190
 Met Ile Ala Glu Ile Ser Asn Gly Arg Arg Met Thr Arg Glu Arg Leu
 195 200 205
 Glu Glu Asn Met Ala Lys Met Arg Gln Ile Asn Ala Arg Met Val Lys
 210 215 220
 Ser Arg Ser His Leu Ala Ala Thr Ser Gly Glu Ser Arg Ile Ser Pro
 225 230 235 240
 Ala Met Met Glu Ala Met Gln His Ala His Arg Lys Ile Val Asn Thr
 245 250 255
 Thr Glu Leu Leu Leu Thr Thr Ala Ala Lys Leu Gln Ser Pro Lys Leu
 260 265 270
 Asn Gly Ser Glu Ile Arg Leu Leu Asp Arg His Phe Thr Leu Leu Gln
 275 280 285
 Thr Asp Leu Gln Gln Thr Val Ala Leu Ile Asn Gly Arg His Ala Arg
 290 295 300
 Arg Ile Arg Ile Asp Thr Ala Ile Asn Pro Glu Leu Glu Ala Leu Ala
 305 310 315 320
 Glu His Leu His Tyr Gln Trp Gln Gly Phe Leu Trp Leu Ser Thr Asn
 325 330 335
 Met Arg Gln Glu Ile Ser Ala Leu Val Ile Leu Leu Gln Arg Thr Arg
 340 345 350
 Arg Lys Trp Leu Asp Ala His Glu Arg Gln His Leu Arg Gln Ser Leu
 355 360 365
 Leu Glu Thr Arg Glu His Ser
 370 375

<210> 635
 <211> 8
 <212> DNA
 <213> *Neisseria gonorrhoeae*

<220>
 <221> misc_feature
 <222> (1)..(8)
 <223> N= Unknown

<400> 635
 nnnnnnnnn

8

<210> 636
 <211> 409
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 636
 Met Ser Gly Val Arg Phe Pro Ser Pro Ala Pro Ile Pro Ser Thr Asp
 1 5 10 15
 Pro Pro Ser Gly Ser Leu Cys Phe Phe Thr Phe Pro Leu Gln Thr Ala
 20 25 30
 Ser Asp Met Asn Ser Ser Gln Arg Lys Arg Leu Ser Gly Arg Trp Leu
 35 40 45
 Asn Ser Tyr Glu Arg Tyr Arg His Arg Arg Leu Ile His Ala Val Arg
 50 55 60
 Leu Gly Gly Thr Val Leu Phe Ala Thr Ala Leu Ala Arg Leu Leu His
 65 70 75 80
 Leu Gln His Gly Glu Trp Ile Gly Met Thr Val Phe Val Val Leu Gly
 85 90 95
 Met Leu Gln Phe Gln Gly Ala Ile Tyr Ser Asn Ala Val Glu Arg Met
 100 105 110
 Leu Gly Thr Val Ile Gly Leu Gly Ala Gly Leu Gly Val Leu Trp Leu
 115 120 125
 Asn Gln His Tyr Phe His Gly Asn Leu Leu Phe Tyr Leu Thr Ile Gly
 130 135 140
 Thr Ala Ser Ala Leu Ala Gly Trp Ala Ala Val Gly Lys Asn Gly Tyr
 145 150 155 160
 Val Pro Met Leu Ala Gly Leu Thr Met Cys Met Leu Ile Gly Asp Asn
 165 170 175
 Gly Ser Glu Trp Leu Asp Ser Gly Leu Met Arg Ala Met Asn Val Leu
 180 185 190
 Ile Gly Ala Ala Ile Ala Ile Ala Ala Ala Lys Leu Leu Pro Leu Lys
 195 200 205
 Ser Thr Leu Met Trp Arg Phe Met Leu Ala Asp Asn Leu Ala Asp Cys
 210 215 220

Ser Lys Met Ile Ala Glu Ile Ser Asn Gly Arg Arg Met Thr Arg Glu
 225 230 235 240
 Arg Leu Glu Gln Asn Met Val Lys Met Arg Gln Ile Asn Ala Arg Met
 245 250 255
 Val Lys Ser Arg Ser His Leu Ala Ala Thr Ser Gly Glu Ser Arg Ile
 260 265 270
 Ser Pro Ser Met Met Glu Ala Met Gln His Ala His Arg Lys Ile Val
 275 280 285
 Asn Thr Thr Glu Leu Leu Leu Thr Thr Ala Ala Lys Leu Gln Ser Pro
 290 295 300
 Lys Leu Asn Gly Ser Glu Ile Arg Leu Leu Asp Arg His Phe Thr Leu
 305 310 315 320
 Leu Gln Thr Asp Leu Gln Gln Thr Ala Ala Leu Ile Asn Gly Arg His
 325 330 335
 Ala Arg Arg Ile Arg Ile Asp Thr Ala Ile Asn Pro Glu Leu Glu Ala
 340 345 350
 Leu Ala Glu His Leu His Tyr Gln Trp Gln Gly Phe Leu Trp Leu Ser
 355 360 365
 Thr Asn Met Arg Gln Glu Ile Ser Ala Leu Val Ile Pro Leu Gln Arg
 370 375 380
 Thr Arg Arg Lys Trp Leu Asp Ala His Glu Arg Gln His Leu Arg Gln
 385 390 395 400
 Ser Leu Leu Glu Thr Arg Glu His Gly
 405

<210> 637
 <211> 1128
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 637
 atgaactcct cgcaacgcaa acgcctttcc ggccgctggc tcaactccta cgaacgctac 60
 cgccaccgcc gcctcataca tgccgtgctg ctcggcgga cgtcctggt cgccaccgca 120
 ctgccccggc tactccacct ccaacacggc gaatggatag ggatgaccgt cttcgtcgtc 180
 ctcgcatgc tccagttcca aggcgcgatt tactccaac cggtggaacg tatgctcggt 240
 acggtcatcg ggctggggcg gggtttgggc gttttatggc tgaaccagca ttatttccac 300
 ggcaacctcc tcttctacct gaccatcggc acggcaagcg cactggccgg ctgggctggc 360
 gtcggcaaaa acggctacgt ccctatgctg gcggggctga cgatgtgcat gctcatcggc 420
 gacaacggca gcgaatggct cgacagcggc ctgatgcgcg cgatgaacgt cctcatcggc 480
 gccgccatcg ccattgccgc cgccaaactg ctgccgctga aatccacact gatgtggcgt 540
 ttcatgcttg ccgacaacct ggccgactgc agcaaaatga ttgccgaaat cagcaacggc 600
 aggcgatga cgcgcgaacg tttggagcag aatatggtca aaatgcgcca aatcaacgca 660
 cgcattggtc aaagccgcag ccacctcgcc gccacatcgg gcgaaagccg catcagcccc 720
 tccatgatgg aagccatgca gcacgcccac cgcaaaatcg tcaacaccac cgagctgctc 780
 ctgaccaccg ccgccaagct gcaatctccc aaactcaacg gcagcgaaat ccggctgctc 840

gaccgccact	tcacactgct	ccaaaccgac	ctgcaacaaa	ccgccgccct	catcaacggc	900
agacacgccc	gccgcatccg	catcgacacc	gccatcaacc	ccgaactgga	agccctcgcc	960
gaacacctcc	actaccaatg	gcagggcttc	ctctgggtca	gcaccaatat	gcgtcaggaa	1020
atttcgcccc	tcgtcatcct	gctgcaacgc	acccgccgca	aatggctgga	tgcccacgaa	1080
cgccaacacc	tgcgccaaag	cctgcttgaa	acacgggaac	acggctga		1128

<210> 638
 <211> 375
 <212> PRT
 <213> *Neisseria gonorrhoeae*

<400> 638

Met	Asn	Ser	Ser	Gln	Arg	Lys	Arg	Leu	Ser	Gly	Arg	Trp	Leu	Asn	Ser	1	5	10	15
Tyr	Glu	Arg	Tyr	Arg	His	Arg	Arg	Leu	Ile	His	Ala	Val	Arg	Leu	Gly	20	25	30	
Gly	Thr	Val	Leu	Phe	Ala	Thr	Ala	Leu	Ala	Arg	Leu	Leu	His	Leu	Gln	35	40	45	
His	Gly	Glu	Trp	Ile	Gly	Met	Thr	Val	Phe	Val	Val	Leu	Gly	Met	Leu	50	55	60	
Gln	Phe	Gln	Gly	Ala	Ile	Tyr	Ser	Asn	Ala	Val	Glu	Arg	Met	Leu	Gly	65	70	75	80
Thr	Val	Ile	Gly	Leu	Gly	Ala	Gly	Leu	Gly	Val	Leu	Trp	Leu	Asn	Gln	85	90	95	
His	Tyr	Phe	His	Gly	Asn	Leu	Leu	Phe	Tyr	Leu	Thr	Ile	Gly	Thr	Ala	100	105	110	
Ser	Ala	Leu	Ala	Gly	Trp	Ala	Ala	Val	Gly	Lys	Asn	Gly	Tyr	Val	Pro	115	120	125	
Met	Leu	Ala	Gly	Leu	Thr	Met	Cys	Met	Leu	Ile	Gly	Asp	Asn	Gly	Ser	130	135	140	
Glu	Trp	Leu	Asp	Ser	Gly	Leu	Met	Arg	Ala	Met	Asn	Val	Leu	Ile	Gly	145	150	155	160
Ala	Ala	Ile	Ala	Ile	Ala	Ala	Ala	Lys	Leu	Leu	Pro	Leu	Lys	Ser	Thr	165	170	175	
Leu	Met	Trp	Arg	Phe	Met	Leu	Ala	Asp	Asn	Leu	Ala	Asp	Cys	Ser	Lys	180	185	190	
Met	Ile	Ala	Glu	Ile	Ser	Asn	Gly	Arg	Arg	Met	Thr	Arg	Glu	Arg	Leu	195	200	205	
Glu	Gln	Asn	Met	Val	Lys	Met	Arg	Gln	Ile	Asn	Ala	Arg	Met	Val	Lys	210	215	220	
Ser	Arg	Ser	His	Leu	Ala	Ala	Thr	Ser	Gly	Glu	Ser	Arg	Ile	Ser	Pro	225	230	235	240

Ser Met Met Glu Ala Met Gln His Ala His Arg Lys Ile Val Asn Thr
 245 250 255
 Thr Glu Leu Leu Leu Thr Thr Ala Ala Lys Leu Gln Ser Pro Lys Leu
 260 265 270
 Asn Gly Ser Glu Ile Arg Leu Leu Asp Arg His Phe Thr Leu Leu Gln
 275 280 285
 Thr Asp Leu Gln Gln Thr Ala Ala Leu Ile Asn Gly Arg His Ala Arg
 290 295 300
 Arg Ile Arg Ile Asp Thr Ala Ile Asn Pro Glu Leu Glu Ala Leu Ala
 305 310 315 320
 Glu His Leu His Tyr Gln Trp Gln Gly Phe Leu Trp Leu Ser Thr Asn
 325 330 335
 Met Arg Gln Glu Ile Ser Ala Leu Val Ile Leu Leu Gln Arg Thr Arg
 340 345 350
 Arg Lys Trp Leu Asp Ala His Glu Arg Gln His Leu Arg Gln Ser Leu
 355 360 365
 Leu Glu Thr Arg Glu His Gly
 370 375

<210> 639
 <211> 710
 <212> DNA
 <213> Neisseria meningitidis

<400> 639
 gccgaagaca cgcgcggttac cgcacagctt ttgagcgcgt acggcattca gggcaaactc 60
 gtcagtgtgc gcgaacacaa cgaacggcag atggcggaca agattgtcgg ctatctttca 120
 gacggcatgg ttgtggcaca ggtttccgat gcggttacgc cggccgtgtg cgacccgggc 180
 gcgaaactcg cccgccgcgt gcgtgaggcc ggggttaaag tcgttcccg cgtgggcgca 240
 acgcggtgat ggcggctttg agcgtggccg gtgtggaagg atccgatttt tatttcaacg 300
 gttttgtacc gccgaaatcg ggagaacgca ggaaactgtt tgccaaatgg gtgcgggcgg 360
 cgtttcctat cgtcatgttt gaaacgccgc accgcatcgg tgcagcgctt gccgatatgg 420
 cggaactggt ccccgaaacgc cgattaatgc tggcgcgcga aattacgaaa acgtttgaaa 480
 cgttcttaag cggcacggtt ggggaaattc agacggcatt gtctgccgac ggcgaccaat 540
 cgcgcggcga gatggtgttg gtgctttatc cggcgcagga tgaaaaacac gaaggcttgt 600
 ccgagtcgcg gcaaaacatc atgaaaatcc tcacagccga gctgccgacc aaacaggcgg 660
 cggagcttgc tgccaaaatc acgggcgagg gaaagaaagc tttgtacgat 710

<210> 640
 <211> 237
 <212> PRT
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (81)..(81)
 <223> Xaa= any amino acid

<400> 640
Ala Glu Asp Thr Arg Val Thr Ala Gln Leu Leu Ser Ala Tyr Gly Ile
1 5 10 15
Gln Gly Lys Leu Val Ser Val Arg Glu His Asn Glu Arg Gln Met Ala
20 25 30
Asp Lys Ile Val Gly Tyr Leu Ser Asp Gly Met Val Val Ala Gln Val
35 40 45
Ser Asp Ala Gly Thr Pro Ala Val Cys Asp Pro Gly Ala Lys Leu Ala
50 55 60
Arg Arg Val Arg Glu Ala Gly Phe Lys Val Val Pro Val Val Gly Ala
65 70 75 80
Xaa Ala Val Met Ala Ala Leu Ser Val Ala Gly Val Glu Gly Ser Asp
85 90 95
Phe Tyr Phe Asn Gly Phe Val Pro Pro Lys Ser Gly Glu Arg Arg Lys
100 105 110
Leu Phe Ala Lys Trp Val Arg Ala Ala Phe Pro Ile Val Met Phe Glu
115 120 125
Thr Pro His Arg Ile Gly Ala Ala Leu Ala Asp Met Ala Glu Leu Phe
130 135 140
Pro Glu Arg Arg Leu Met Leu Ala Arg Glu Ile Thr Lys Thr Phe Glu
145 150 155 160
Thr Phe Leu Ser Gly Thr Val Gly Glu Ile Gln Thr Ala Leu Ser Ala
165 170 175
Asp Gly Asp Gln Ser Arg Gly Glu Met Val Leu Val Leu Tyr Pro Ala
180 185 190
Gln Asp Glu Lys His Glu Gly Leu Ser Glu Ser Ala Gln Asn Ile Met
195 200 205
Lys Ile Leu Thr Ala Glu Leu Pro Thr Lys Gln Ala Ala Glu Leu Ala
210 215 220
Ala Lys Ile Thr Gly Glu Gly Lys Lys Ala Leu Tyr Asp
225 230 235

<210> 641
<211> 876
<212> DNA
<213> Neisseria meningitidis

<400> 641
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gttgccacgc ccatacgga tttggcggac attaccctgc gcgctttggc ggtattgcaa 120
aaggcggaca tcatctgtgc cgaagacacg cgcgttaccg cacagctttt gagcgcgtac 180
ggcattcagg gcaaactcgt cagtgtgcgc gaacacaacg aacggcagat ggcggacaag 240

attgtcggct	atctttcaga	cggcatgggt	gtggcacagg	tttccgatgc	gggtacgccg	300
gccgtgtgcg	acccgggcg	gaaactcgcc	cgccgcgtgc	gtgaggccgg	gtttaaagtc	360
gttcccgtcg	tgggcgcaag	cgcggtgatg	gcggctttga	gcgtggccgg	tgtggaagga	420
tccgattttt	atttcaacgg	ttttgtaccg	ccgaaatcgg	gagaacgcag	gaaactgttt	480
gccaaatggg	tgcggggcgg	gtttcctatc	gtcatgtttg	aaacgccgca	ccgcatcggt	540
gcgacgcttg	ccgatatggc	ggaactgttc	cccgaacgcc	gattaatgct	ggcgcgcgaa	600
attacgaaaa	cgtttgaaac	gttcttaagc	ggcacggttg	gggaaattca	gacggcattg	660
tctgccgacg	gcaaccaatc	gcgcggcgag	atggtgttgg	tgctttatcc	ggcgaggat	720
gaaaaacacg	aaggcttgtc	cgagtcgcgc	caaaacatca	tgaaaatcct	cacagccgag	780
ctgccgacca	aacaggcggc	ggagcttgct	gccaaaatca	cgggcgaggg	aaagaaagct	840
ttgtacgatc	tggctctgtc	ttggaaaaac	aaatag			876

<210> 642
 <211> 291
 <212> PRT
 <213> *Neisseria meningitidis*

<400> 642

Met	Phe	Gln	Lys	His	Leu	Gln	Lys	Ala	Ser	Asp	Ser	Val	Val	Gly	Gly	
1			5						10					15		
Thr	Leu	Tyr	Val	Val	Ala	Thr	Pro	Ile	Gly	Asn	Leu	Ala	Asp	Ile	Thr	
			20					25					30			
Leu	Arg	Ala	Leu	Ala	Val	Leu	Gln	Lys	Ala	Asp	Ile	Ile	Cys	Ala	Glu	
		35					40					45				
Asp	Thr	Arg	Val	Thr	Ala	Gln	Leu	Leu	Ser	Ala	Tyr	Gly	Ile	Gln	Gly	
	50					55					60					
Lys	Leu	Val	Ser	Val	Arg	Glu	His	Asn	Glu	Arg	Gln	Met	Ala	Asp	Lys	
65					70				75					80		
Ile	Val	Gly	Tyr	Leu	Ser	Asp	Gly	Met	Val	Val	Ala	Gln	Val	Ser	Asp	
			85					90						95		
Ala	Gly	Thr	Pro	Ala	Val	Cys	Asp	Pro	Gly	Ala	Lys	Leu	Ala	Arg	Arg	
			100					105					110			
Val	Arg	Glu	Ala	Gly	Phe	Lys	Val	Val	Pro	Val	Val	Gly	Ala	Ser	Ala	
		115					120					125				
Val	Met	Ala	Ala	Leu	Ser	Val	Ala	Gly	Val	Glu	Gly	Ser	Asp	Phe	Tyr	
	130					135					140					
Phe	Asn	Gly	Phe	Val	Pro	Pro	Lys	Ser	Gly	Glu	Arg	Arg	Lys	Leu	Phe	
145				150					155					160		
Ala	Lys	Trp	Val	Arg	Ala	Ala	Phe	Pro	Ile	Val	Met	Phe	Glu	Thr	Pro	
			165					170					175			
His	Arg	Ile	Gly	Ala	Thr	Leu	Ala	Asp	Met	Ala	Glu	Leu	Phe	Pro	Glu	
		180					185					190				
Arg	Arg	Leu	Met	Leu	Ala	Arg	Glu	Ile	Thr	Lys	Thr	Phe	Glu	Thr	Phe	
		195				200						205				

Leu Ser Gly Thr Val Gly Glu Ile Gln Thr Ala Leu Ser Ala Asp Gly
 210 215 220
 Asn Gln Ser Arg Gly Glu Met Val Leu Val Leu Tyr Pro Ala Gln Asp
 225 230 235 240
 Glu Lys His Glu Gly Leu Ser Glu Ser Ala Gln Asn Ile Met Lys Ile
 245 250 255
 Leu Thr Ala Glu Leu Pro Thr Lys Gln Ala Ala Glu Leu Ala Ala Lys
 260 265 270
 Ile Thr Gly Glu Gly Lys Lys Ala Leu Tyr Asp Leu Ala Leu Ser Trp
 275 280 285
 Lys Asn Lys
 290

<210> 643
 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

<220>
 <221> misc_feature
 <222> (1)..(8)
 <223> N= Unknown

<400> 643
 nnnnnnnn

8

<210> 644
 <211> 300
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 644
 Met Ser Val Phe Gln Thr Ala Phe Phe Met Phe Gln Lys His Leu Gln
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 Lys Ala Ser Asp Ser Val Val Gly Gly Thr Leu Tyr Val Val Ala Thr
 20 25 30
 Pro Ile Gly Asn Leu Ala Asp Ile Thr Leu Arg Ala Leu Ala Val Leu
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 Gln Lys Ala Asp Ile Ile Cys Ala Glu Asp Thr Arg Val Thr Ala Gln
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 Leu Leu Ser Ala Tyr Gly Ile Gln Gly Arg Leu Val Ser Val Arg Glu
 65 70 75 80
 His Asn Glu Arg Gln Met Ala Asp Lys Val Ile Gly Phe Leu Ser Asp
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 Gly Leu Val Val Ala Gln Val Ser Asp Ala Gly Thr Pro Ala Val Cys

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Lys Ser Gly Glu Arg Arg Lys Leu Phe Ala Lys Trp Val Arg Ala Ala 165 170 175		
Phe Pro Val Val Met Phe Glu Thr Pro His Arg Ile Gly Ala Thr Leu 180 185 190		
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Glu Ile Thr Lys Thr Phe Glu Thr Phe Leu Ser Gly Thr Val Gly Glu 210 215 220		
Ile Gln Thr Ala Leu Ala Ala Asp Gly Asn Gln Ser Arg Gly Glu Met 225 230 235 240		
Val Leu Val Leu Tyr Pro Ala Gln Asp Glu Lys His Glu Gly Leu Ser 245 250 255		
Glu Ser Ala Gln Asn Ala Met Lys Ile Leu Ala Ala Glu Leu Pro Thr 260 265 270		
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 <212> DNA
 <213> *Neisseria gonorrhoeae*

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 <213> *Neisseria gonorrhoeae*

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245

250

255

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Lys Asn Lys
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 <213> *Neisseria meningitidis*

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<210> 648
 <211> 979
 <212> PRT
 <213> *Neisseria meningitidis*

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 35 40 45
 Ile Asn Tyr Gln Tyr Tyr Arg Asp Phe Ala Glu Asn Lys Gly Lys Phe
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 Ala Val Gly Ala Lys Asp Ile Glu Val Tyr Asn Lys Lys Gly Glu Leu
 65 70 75 80
 Val Gly Lys Ser Met Thr Lys Ala Pro Met Ile Asp Phe Ser Val Val
 85 90 95
 Ser Arg Asn Gly Val Ala Ala Leu Val Gly Val Gln Tyr Ile Val Ser
 100 105 110
 Val Ala His Asn Gly Gly Tyr Asn Asn Val Asp Phe Gly Ala Glu Gly
 115 120 125
 Xaa Asn Ile Xaa Asp Gln Xaa Arg Xaa Thr Tyr Lys Ile Val Lys Arg
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 Asn Asn Tyr Lys Ala Gly Thr Lys Gly His Pro Tyr Gly Gly Asp Tyr
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Met Thr Ser Tyr Met Asp Gly Arg Lys Tyr Ile Asp Gln Asn Asn Tyr	180	185	190
Pro Asp Arg Val Arg Ile Gly Ala Gly Arg Gln Tyr Trp Arg Ser Asp	195	200	205
Glu Asp Glu Pro Asn Asn Arg Glu Ser Ser Tyr His Ile Ala Ser Gly	210	215	220
Ser Pro Met Phe Ile Tyr Asp Ala Gln Lys Gln Lys Trp Leu Ile Asn	225	230	235
Gly Val Leu Gln Thr Gly Asn Pro Tyr Ile Gly Lys Ser Asn Gly Phe	245	250	255
Gln Leu Val Arg Lys Asp Trp Phe Tyr Asp Glu Ile Phe Ala Gly Asp	260	265	270
Thr His Ser Val Phe Tyr Glu Pro Arg Gln Asn Gly Lys Tyr Ser Phe	275	280	285
Asn Asp Asp Asn Asn Gly Thr Gly Lys Ile Asn Ala Lys His Glu His	290	295	300
Asn Ser Leu Pro Asn Arg Leu Lys Thr Arg Thr Val Gln Leu Phe Asn	305	310	315
Val Ser Leu Ser Glu Thr Ala Arg Glu Pro Val Tyr His Ala Ala Gly	325	330	335
Gly Val Asn Ser Tyr Arg Pro Arg Leu Asn Asn Gly Glu Asn Ile Ser	340	345	350
Phe Ile Asp Glu Gly Lys Gly Glu Leu Ile Leu Thr Ser Asn Ile Asn	355	360	365
Gln Gly Ala Gly Gly Leu Tyr Phe Gln Gly Asp Phe Thr Val Ser Pro	370	375	380
Glu Asn Asn Glu Thr Trp Gln Gly Ala Gly Val His Ile Ser Glu Asp	385	390	395
Ser Thr Val Thr Trp Lys Val Asn Gly Val Ala Asn Asp Arg Leu Ser	405	410	415
Lys Ile Gly Lys Gly Thr Leu Asp Lys Val Thr Ala Ser Leu Thr Lys	420	425	430
Thr Asp Ile Ser Gly Asn Val Asp Leu Ala Asp His Ala His Leu Asn	435	440	445
Leu Thr Gly Leu Ala Thr Leu Asn Gly Asn Leu Ser Ala Asn Gly Asp	450	455	460

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Val	Gln	Asn	Gly	Ser	Leu	Thr	Leu	Ser	Gly	Asn	Ala	Lys	Ala	Asn	Val		515	520	525
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Phe	His	Phe	Glu	Ser	Ser	Arg	Phe	Thr	Gly	Gln	Ile	Ser	Gly	Gly	Lys	545	550	555	560
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Leu	Asp	Arg	Val	Phe	Ala	Glu	Asp	Arg	Arg	Asn	Ala	Val	Trp	Thr	Ser		725	730	735
Gly	Ile	Arg	Asp	Thr	Lys	His	Tyr	Arg	Ser	Gln	Asp	Phe	Arg	Ala	Tyr	740	745		750
Arg	Gln	Gln	Thr	Asp	Leu	Arg	Gln	Ile	Gly	Met	Gln	Lys	Asn	Leu	Gly	755	760	765	

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 770 775 780

Phe Asp Asp Gly Ile Gly Asn Ser Ala Arg Leu Ala His Gly Ala Val
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Phe Gly Gln Tyr Gly Ile Asp Arg Phe Tyr Ile Gly Ile Ser Ala Gly
 805 810 815

Ala Gly Phe Ser Ser Gly Ser Leu Ser Asp Gly Ile Gly Xaa Lys Xaa
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Arg Arg Arg Val Leu His Tyr Gly Ile Gln Ala Arg Tyr Arg Ala Gly
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Val Gln Lys Ala Asp Tyr Arg Tyr Glu Asn Val Asn Ile Ala Thr Pro
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Gly Leu Ala Phe Asn Arg Tyr Arg Ala Gly Ile Lys Ala Asp Tyr Ser
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Phe Lys Pro Ala Gln His Ile Ser Ile Thr Pro Tyr Leu Ser Leu Ser
 900 905 910

Tyr Thr Asp Ala Ala Ser Gly Lys Val Arg Thr Arg Val Asn Thr Ala
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Val Leu Ala Gln Asp Phe Gly Lys Thr Arg Ser Ala Glu Trp Gly Val
 930 935 940

Asn Ala Glu Ile Lys Gly Phe Thr Leu Ser Leu His Ala Ala Ala Ala
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Tyr Arg Trp

<210> 649

<211> 4374

<212> DNA

<213> Neisseria meningitidis

<400> 649

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tacgaaaacg	tcaatatcgc	caccccgggc	cttgcatcca	accgctaccg	cgcgggcatt	4140
aaggcagatt	attcattcaa	accggcgcaa	cacatttcca	tcacgcctta	tttgagcctg	4200
tcctataccg	atgccgcttc	cggcaaagtc	cgaacgcgcg	tcaataccgc	cgtattggcg	4260
caggatttcg	gcaaaacccg	cagtgcggaa	tggggcgtaa	acgccgaaat	caaaggtttc	4320
acgctgtccc	tccacgctgc	cgccgcgaag	gggcgcgaat	tggaagcgca	gcacagcgcg	4380
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 <211> 1468
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 654
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 20 25 30
 Ser Phe Gly Ile Leu Pro Gln Ala Arg Ala Gly His Thr Tyr Phe Gly
 35 40 45
 Ile Asn Tyr Gln Tyr Tyr Arg Asp Phe Ala Glu Asn Lys Gly Lys Phe
 50 55 60
 Ala Val Gly Ala Lys Asp Ile Glu Val Tyr Asn Lys Lys Gly Glu Leu
 65 70 75 80
 Val Gly Lys Ser Met Thr Lys Ala Pro Met Ile Asp Phe Ser Val Val
 85 90 95
 Ser Arg Asn Gly Val Ala Ala Leu Ala Gly Asp Gln Tyr Ile Val Ser
 100 105 110
 Val Ala His Asn Gly Gly Tyr Asn Asn Val Asp Phe Gly Ala Glu Gly
 115 120 125
 Ser Asn Pro Asp Gln His Arg Phe Ser Tyr Gln Ile Val Lys Arg Asn

130					135					140					
Asn	Tyr	Lys	Ala	Gly	Thr	Asn	Gly	His	Pro	Tyr	Gly	Gly	Asp	Tyr	His
145					150					155					160
Met	Pro	Arg	Leu	His	Lys	Phe	Val	Thr	Asp	Ala	Glu	Pro	Val	Glu	Met
				165					170					175	
Thr	Ser	Tyr	Met	Asp	Gly	Trp	Lys	Tyr	Ala	Asp	Leu	Asn	Lys	Tyr	Pro
			180					185					190		
Asp	Arg	Val	Arg	Ile	Gly	Ala	Gly	Arg	Gln	Tyr	Trp	Arg	Ser	Asp	Glu
		195					200					205			
Asp	Glu	Pro	Asn	Asn	Arg	Glu	Ser	Ser	Tyr	His	Ile	Ala	Ser	Ala	Tyr
	210					215					220				
Ser	Trp	Leu	Val	Gly	Gly	Asn	Thr	Phe	Ala	Gln	Asn	Gly	Ser	Gly	Gly
225				230						235					240
Gly	Thr	Val	Asn	Leu	Gly	Ser	Glu	Lys	Ile	Lys	His	Ser	Pro	Tyr	Gly
			245						250					255	
Phe	Leu	Pro	Thr	Gly	Gly	Ser	Phe	Gly	Asp	Ser	Gly	Ser	Pro	Met	Phe
			260					265					270		
Ile	Tyr	Asp	Ala	Gln	Lys	Gln	Lys	Trp	Leu	Ile	Asn	Gly	Val	Leu	Gln
		275					280					285			
Thr	Gly	Asn	Pro	Tyr	Ile	Gly	Lys	Ser	Asn	Gly	Phe	Gln	Leu	Val	Arg
	290					295					300				
Lys	Asp	Trp	Phe	Tyr	Asp	Glu	Ile	Phe	Ala	Gly	Asp	Thr	His	Ser	Val
305				310						315					320
Phe	Tyr	Glu	Pro	His	Gln	Asn	Gly	Lys	Tyr	Phe	Phe	Asn	Asp	Asn	Asn
			325						330					335	
Asn	Gly	Ala	Gly	Lys	Ile	Asp	Ala	Lys	His	Lys	His	Tyr	Ser	Leu	Pro
		340						345					350		
Tyr	Arg	Leu	Lys	Thr	Arg	Thr	Val	Gln	Leu	Phe	Asn	Val	Ser	Leu	Ser
	355						360					365			
Glu	Thr	Ala	Arg	Glu	Pro	Val	Tyr	His	Ala	Ala	Gly	Gly	Val	Asn	Ser
	370					375					380				
Tyr	Arg	Pro	Arg	Leu	Asn	Asn	Gly	Glu	Asn	Ile	Ser	Phe	Ile	Asp	Lys
385				390						395					400
Gly	Lys	Gly	Glu	Leu	Ile	Leu	Thr	Ser	Asn	Ile	Asn	Gln	Gly	Ala	Gly
			405						410				415		
Gly	Leu	Tyr	Phe	Glu	Gly	Asn	Phe	Thr	Val	Ser	Pro	Lys	Asn	Asn	Glu
		420					425						430		

Thr	Trp	Gln	Gly	Ala	Gly	Val	His	Ile	Ser	Asp	Gly	Ser	Thr	Val	Thr	435	440	445
Trp	Lys	Val	Asn	Gly	Val	Ala	Asn	Asp	Arg	Leu	Ser	Lys	Ile	Gly	Lys	450	455	460
Gly	Thr	Leu	Leu	Val	Gln	Ala	Lys	Gly	Glu	Asn	Gln	Gly	Ser	Val	Ser	465	470	475
Val	Gly	Asp	Gly	Lys	Val	Ile	Leu	Asp	Gln	Gln	Ala	Asp	Asp	Gln	Gly	485	490	495
Lys	Lys	Gln	Ala	Phe	Ser	Glu	Ile	Gly	Leu	Val	Ser	Gly	Arg	Gly	Thr	500	505	510
Val	Gln	Leu	Asn	Ala	Asp	Asn	Gln	Phe	Asn	Pro	Asp	Lys	Leu	Tyr	Phe	515	520	525
Gly	Phe	Arg	Gly	Gly	Arg	Leu	Asp	Leu	Asn	Gly	His	Ser	Leu	Ser	Phe	530	535	540
His	Arg	Ile	Gln	Asn	Thr	Asp	Glu	Gly	Ala	Met	Ile	Val	Asn	His	Asn	545	550	555
Gln	Asp	Lys	Glu	Ser	Thr	Val	Thr	Ile	Thr	Gly	Asn	Lys	Asp	Ile	Thr	565	570	575
Thr	Thr	Gly	Asn	Asn	Asn	Asn	Leu	Asp	Ser	Lys	Lys	Glu	Ile	Ala	Tyr	580	585	590
Asn	Gly	Trp	Phe	Gly	Glu	Lys	Asp	Ala	Thr	Lys	Thr	Asn	Gly	Gly	Leu	595	600	605
Asn	Leu	Asn	Tyr	Pro	Pro	Glu	Glu	Ala	Asp	Arg	Thr	Leu	Leu	Leu	Ser	610	615	620
Gly	Gly	Thr	Asn	Leu	Asn	Gly	Asn	Ile	Thr	Gln	Thr	Asn	Gly	Lys	Leu	625	630	635
Phe	Phe	Ser	Gly	Arg	Pro	Thr	Pro	His	Ala	Tyr	Asn	His	Leu	Gly	Ser	645	650	655
Gly	Trp	Ser	Lys	Met	Glu	Gly	Ile	Pro	Gln	Gly	Glu	Ile	Val	Trp	Asp	660	665	670
Asn	Asp	Trp	Ile	Asp	Arg	Thr	Phe	Lys	Ala	Glu	Asn	Phe	His	Ile	Gln	675	680	685
Gly	Gly	Gln	Ala	Val	Val	Ser	Arg	Asn	Val	Ala	Lys	Val	Glu	Gly	Asp	690	695	700
Trp	His	Leu	Ser	Asn	His	Ala	Gln	Ala	Val	Phe	Gly	Val	Ala	Pro	His	705	710	715
Gln	Ser	His	Thr	Ile	Cys	Thr	Arg	Ser	Asp	Trp	Thr	Gly	Leu	Thr	Ser	725	730	735

Cys Thr Glu Lys Thr Ile Thr Asp Asp Lys Val Ile Ala Ser Leu Ser	740	745	750
Lys Thr Asp Val Arg Gly Asn Val Ser Leu Ala Asp His Ala His Leu	755	760	765
Asn Leu Thr Gly Leu Ala Thr Phe Asn Gly Asn Leu Val Gln Ala Glu	770	775	780
Thr Arg Thr Ile Arg Leu Arg Ala Asn Ala Thr Gln Asn Gly Asn Leu	785	790	795
Ser Leu Val Gly Asn Ala Gln Ala Thr Phe Asn Gln Ala Thr Leu Asn	805	810	815
Gly Asn Thr Ser Ala Ser Asp Asn Ala Ser Phe Asn Leu Ser Asn Asn	820	825	830
Ala Val Gln Asn Gly Ser Leu Thr Leu Ser Asp Asn Ala Lys Ala Asn	835	840	845
Val Ser His Ser Ala Leu Asn Gly Asn Val Ser Leu Ala Asp Lys Ala	850	855	860
Val Phe His Phe Glu Asn Ser Arg Phe Thr Gly Lys Ile Ser Gly Gly	865	870	875
Lys Asp Thr Ala Leu His Leu Lys Asp Ser Glu Trp Thr Leu Pro Ser	885	890	895
Gly Thr Glu Leu Gly Asn Leu Asn Leu Asp Asn Ala Thr Ile Thr Leu	900	905	910
Asn Ser Ala Tyr Arg His Asp Ala Ala Gly Ala Gln Thr Gly Ser Ala	915	920	925
Ala Asp Ala Pro Arg Arg Arg Ser Arg Arg Ser Leu Leu Ser Val Thr	930	935	940
Pro Pro Thr Ser Ala Glu Ser Arg Phe Asn Thr Leu Thr Val Asn Gly	945	950	955
Lys Leu Asn Gly Gln Gly Thr Phe Arg Phe Met Ser Glu Leu Phe Gly	965	970	975
Tyr Arg Ser Gly Lys Leu Lys Leu Ala Glu Ser Ser Glu Gly Thr Tyr	980	985	990
Thr Leu Ala Val Asn Asn Thr Gly Asn Glu Pro Val Ser Leu Glu Gln	995	1000	1005
Leu Thr Val Val Glu Gly Lys Asp Asn Thr Pro Leu Ser Glu Asn	1010	1015	1020
Leu Asn Phe Thr Leu Gln Asn Glu His Val Asp Ala Gly Ala Trp	1025	1030	1035

Arg Tyr	Gln Leu Ile Arg Lys	Asp Gly Glu Phe Arg	Leu His Asn
1040	1045	1050	
Pro Val	Lys Glu Gln Glu Leu	Ser Asp Lys Leu Gly	Lys Ala Gly
1055	1060	1065	
Glu Thr	Glu Ala Ala Leu Thr	Ala Lys Gln Ala Gln	Leu Ala Ala
1070	1075	1080	
Lys Gln	Gln Ala Glu Lys Asp	Asn Ala Gln Ser Leu	Asp Ala Leu
1085	1090	1095	
Ile Ala	Ala Gly Arg Asn Ala	Thr Glu Lys Ala Glu	Ser Val Ala
1100	1105	1110	
Glu Pro	Ala Arg Gln Ala Gly	Gly Glu Asn Ala Gly	Ile Met Gln
1115	1120	1125	
Ala Glu	Glu Glu Lys Lys Arg	Val Gln Ala Asp Lys	Asp Thr Ala
1130	1135	1140	
Leu Ala	Lys Gln Arg Glu Ala	Glu Thr Arg Pro Ala	Thr Thr Ala
1145	1150	1155	
Phe Pro	Arg Ala Arg Arg Ala	Arg Arg Asp Leu Pro	Gln Pro Gln
1160	1165	1170	
Pro Gln	Pro Gln Pro Gln Pro	Gln Arg Asp Leu Ile	Ser Arg Tyr
1175	1180	1185	
Ala Asn	Ser Gly Leu Ser Glu	Phe Ser Ala Thr Leu	Asn Ser Val
1190	1195	1200	
Phe Ala	Val Gln Asp Glu Leu	Asp Arg Val Phe Ala	Glu Asp Arg
1205	1210	1215	
Arg Asn	Ala Val Trp Thr Ser	Gly Ile Arg Asp Thr	Lys His Tyr
1220	1225	1230	
Arg Ser	Gln Asp Phe Arg Ala	Tyr Arg Gln Gln Thr	Asp Leu Arg
1235	1240	1245	
Gln Ile	Gly Met Gln Lys Asn	Leu Gly Ser Gly Arg	Val Gly Ile
1250	1255	1260	
Leu Phe	Ser His Asn Arg Thr	Gly Asn Thr Phe Asp	Asp Gly Ile
1265	1270	1275	
Gly Asn	Ser Ala Arg Leu Ala	His Gly Ala Val Phe	Gly Gln Tyr
1280	1285	1290	
Gly Ile	Gly Arg Phe Asp Ile	Gly Ile Ser Ala Gly	Ala Gly Phe
1295	1300	1305	
Ser Ser	Gly Ser Leu Ser Asp	Gly Ile Arg Gly Lys	Ile Arg Arg
1310	1315	1320	

Arg Val Leu His Tyr Gly Ile Gln Ala Arg Tyr Arg Ala Gly Phe
 1325 1330 1335
 Gly Gly Phe Gly Ile Glu Pro His Ile Gly Ala Thr Arg Tyr Phe
 1340 1345 1350
 Val Gln Lys Ala Asp Tyr Arg Tyr Glu Asn Val Asn Ile Ala Thr
 1355 1360 1365
 Pro Gly Leu Ala Phe Asn Arg Tyr Arg Ala Gly Ile Lys Ala Asp
 1370 1375 1380
 Tyr Ser Phe Lys Pro Ala Gln His Ile Ser Ile Thr Pro Tyr Leu
 1385 1390 1395
 Ser Leu Ser Tyr Thr Asp Ala Ala Ser Gly Lys Val Arg Thr Arg
 1400 1405 1410
 Val Asn Thr Ala Val Leu Ala Gln Asp Phe Gly Lys Thr Arg Ser
 1415 1420 1425
 Ala Glu Trp Gly Val Asn Ala Glu Ile Lys Gly Phe Thr Leu Ser
 1430 1435 1440
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 Ser Ala Gly Ile Lys Leu Gly Tyr Arg Trp
 1460 1465

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 <211> 422
 <212> DNA
 <213> Neisseria meningitidis

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 atcaaaatgt cgtcaaaggc ttgcaggagc agttccctgc ttatgccgct aacttccccg 180
 tttgggcgga tcaggcaaac gcgatggtgc agtatgccgt ttggacgaca cttgccgcgg 240
 tcggcgtagg tgcaaacctg caacattaca atcccttgcc cgatgcggcg attgccaaag 300
 cgtggaatat ccccgaaaac tggttgttgc gcgcacaaat ggttatcggc ggtattgaag 360
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 aa 422

<210> 656
 <211> 140
 <212> PRT
 <213> Neisseria meningitidis

<220>
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 <223> Xaa= any amino acid

<400> 656

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 Ala Ala Thr Ile Leu Phe Tyr Glu Asp Gln Asn Val Val Lys Gly Leu
 35 40 45
 Gln Glu Gln Phe Pro Ala Tyr Ala Ala Asn Phe Pro Val Trp Ala Asp
 50 55 60
 Gln Ala Asn Ala Met Val Gln Tyr Ala Val Trp Thr Thr Leu Ala Ala
 65 70 75 80
 Val Gly Val Gly Ala Asn Leu Gln His Tyr Asn Pro Leu Pro Asp Ala
 85 90 95
 Ala Ile Ala Lys Ala Trp Asn Ile Pro Glu Asn Trp Leu Leu Arg Ala
 100 105 110
 Gln Met Val Ile Gly Gly Ile Glu Gly Ala Ala Gly Glu Lys Thr Phe
 115 120 125
 Glu Pro Val Ala Glu Arg Leu Lys Val Phe Gly Ala
 130 135 140

<210> 657
 <211> 396
 <212> DNA
 <213> Neisseria meningitidis

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 aaggcgggtg cggcaaccat tttgttttat gaagatcaaa atgtcgtcaa aggtttgcag 120
 gagcagttcc ctgcttatgc cgctaacttc cccgtttggg cggatcaggc aaacgcgatg 180
 gtgcagtatg ccgtttggac gacacttgcc gcggtcggcg taggtgcaaa cctgcaacat 240
 tacaatccct tgcccgatgc ggcgattgcc aaagcgtgga atatccccga aaactggttg 300
 ttgcgcgcac aaatggttat cggcgggtatt gaaggggcgg caggtgaaaa gacctttgaa 360
 cccgttgcag aacgtttgaa agtgttcggc gcataa 396

<210> 658
 <211> 131
 <212> PRT
 <213> Neisseria meningitidis

<400> 658
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 Gln Asn Val Val Lys Gly Leu Gln Glu Gln Phe Pro Ala Tyr Ala Ala
 35 40 45

Asn Phe Pro Val Trp Ala Asp Gln Ala Asn Ala Met Val Gln Tyr Ala
50 55 60

Val Trp Thr Thr Leu Ala Ala Val Gly Val Gly Ala Asn Leu Gln His
65 70 75 80

Tyr Asn Pro Leu Pro Asp Ala Ala Ile Ala Lys Ala Trp Asn Ile Pro
85 90 95

Glu Asn Trp Leu Leu Arg Ala Gln Met Val Ile Gly Gly Ile Glu Gly
100 105 110

Ala Ala Gly Glu Lys Thr Phe Glu Pro Val Ala Glu Arg Leu Lys Val
115 120 125

Phe Gly Ala
130

<210> 659

<211> 606

<212> DNA

<213> Neisseria meningitidis

<400> 659

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acaccttctt	cgttcaattc	ccaatctgcc	cgtgtggctg	tgctgtttgg	cgaagagcat	180
gataaggtgt	ggcaatttgt	cgaagacgcg	ctgcgtgccg	tcgtgcctgc	cgacagtttt	240
gaaccgaccg	cgcaaaaatt	gaacctgttt	aaggcgggtg	cggcaactat	tttgttttat	300
gaagatcaaa	atgtcgtcaa	aggtttgcag	gagcagttcc	ctgcttatgc	cgccaacttt	360
cccgtttggg	cggaccaggc	gaacgcgatg	gtgcagtatg	ccgtttggac	gacacttgcc	420
gcggtcggcg	taggtgcaaa	cctgcaacat	tacaatccct	tgcccgatgc	ggcgattgcc	480
aaagcgtgga	atatccccga	aaactggttg	ttgcgcgcac	aaatggttat	cggcgggtatt	540
gaagggggcg	caggtgaaaa	gacctttgaa	ccagttgcag	aacgtttgaa	agtgttcggc	600
gcataa						606

<210> 660

<211> 201

<212> PRT

<213> Neisseria meningitidis

<400> 660

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Tyr Ser Leu Asn Lys Asn Leu Pro Val Gly Lys Asp Glu Ile Val Gln
20 25 30

Ile Val Glu His Ala Val Leu His Thr Pro Ser Ser Phe Asn Ser Gln
35 40 45

Ser Ala Arg Val Val Val Leu Phe Gly Glu Glu His Asp Lys Val Trp
50 55 60

Gln Phe Val Glu Asp Ala Leu Arg Ala Val Val Pro Ala Asp Ser Phe
65 70 75 80

Glu Pro Thr Ala Gln Lys Leu Asn Leu Phe Lys Ala Gly Ala Ala Thr
 85 90 95
 Ile Leu Phe Tyr Glu Asp Gln Asn Val Val Lys Gly Leu Gln Glu Gln
 100 105 110
 Phe Pro Ala Tyr Ala Ala Asn Phe Pro Val Trp Ala Asp Gln Ala Asn
 115 120 125
 Ala Met Val Gln Tyr Ala Val Trp Thr Thr Leu Ala Ala Val Gly Val
 130 135 140
 Gly Ala Asn Leu Gln His Tyr Asn Pro Leu Pro Asp Ala Ala Ile Ala
 145 150 155 160
 Lys Ala Trp Asn Ile Pro Glu Asn Trp Leu Leu Arg Ala Gln Met Val
 165 170 175
 Ile Gly Gly Ile Glu Gly Ala Ala Gly Glu Lys Thr Phe Glu Pro Val
 180 185 190
 Ala Glu Arg Leu Lys Val Phe Gly Ala
 195 200

<210> 661
 <211> 525
 <212> DNA
 <213> *Neisseria gonorrhoeae*

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 aagctgttta aggcggggcg ggcaaccatt ttgttttatg aagatcaaaa tgtcgtcaaa 240
 ggtttgcagg agcagttccc tgcttatgcc gccaaactttc ccgtttgggc ggaccaggcg 300
 aacgctatgg tacagtatgc cgtctggacg acacttgccg cggtcggtgc aggtgcaaat 360
 ctgcaacatt acaaccctt gcccgatgtg gcgattgcta aagcgtggaa tattccccgaa 420
 aactggctgt tgcgcgcgca aatgggtatc ggtggtattg aaggggcggc aggtgaaaaa 480
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 <211> 174
 <212> PRT
 <213> *Neisseria gonorrhoeae*

<400> 662
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 Ile Tyr Lys Val Trp Gln Phe Val Glu Asp Ala Leu Arg Ala Val Val
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 35 40 45

Leu Leu Asp Gly Thr Gly Glu Pro Ser Ala Thr Val Asn Leu Val Arg
 50 55 60

Lys Arg Leu Thr Arg Lys Pro Leu Phe Glu Val Arg Ala Glu Ala Gly
 65 70 75 80

Asn Arg Lys His Phe Gly Leu Asp Ala Asp Val Ser Gly Ser Leu Asn
 85 90 95

Thr Glu Xaa Xaa Leu Arg Gly Arg Leu Val Ser Thr Phe Gly Arg Gly
 100 105 110

Asp Ser Trp Arg Arg Arg Glu Arg Ser Arg Xaa Ala Glu Leu Tyr Gly
 115 120 125

Ile Leu Glu Tyr Asp Ile Ala Pro Gln Thr Arg Val His Ala Xaa Met
 130 135 140

Asp Tyr Gln Gln Ala Lys Glu Thr Ala Asp Ala Pro Leu Ser Tyr Ala
 145 150 155 160

Val Tyr Asp Ser Gln Gly Tyr Ala Thr Ala Phe Gly Pro Lys Asp Asn
 165 170 175

Pro Ala Thr Asn Trp Ala Asn Ser His His Arg Ala Leu Asn Leu Phe
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Tyr Asp Tyr
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<210> 665
 <211> 2178
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 <213> Neisseria meningitidis

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caacaaatgc	gcgacccaaa	catcaaaacg	ctcgaccgcg	ccctgttgca	ggcgaccggc	300
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ggcaatgcc	acaccgccc	ctatgagcgc	gtagaagtcg	tgcgcggcgt	ggcggggctg	480
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 <212> PRT
 <213> *Neisseria meningitidis*

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 35 40 45
 Ser Asn Asp Gly Tyr Thr Val Ser Gly Thr His Thr Pro Leu Gly Leu
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 Pro Met Thr Leu Arg Glu Ile Pro Gln Ser Val Ser Val Ile Thr Ser
 65 70 75 80

Gln	Gln	Met	Arg	Asp	Gln	Asn	Ile	Lys	Thr	Leu	Asp	Arg	Ala	Leu	Leu	85	90	95
Gln	Ala	Thr	Gly	Thr	Ser	Arg	Gln	Ile	Tyr	Gly	Ser	Asp	Arg	Ala	Gly	100	105	110
Tyr	Asn	Tyr	Leu	Phe	Ala	Arg	Gly	Ser	Arg	Ile	Ala	Asn	Tyr	Gln	Ile	115	120	125
Asn	Gly	Ile	Pro	Val	Ala	Asp	Ala	Leu	Ala	Asp	Thr	Gly	Asn	Ala	Asn	130	135	140
Thr	Ala	Ala	Tyr	Glu	Arg	Val	Glu	Val	Val	Arg	Gly	Val	Ala	Gly	Leu	145	150	155
Leu	Asp	Gly	Thr	Gly	Glu	Pro	Ser	Ala	Thr	Val	Asn	Leu	Val	Arg	Lys	165	170	175
Arg	Leu	Thr	Arg	Lys	Pro	Leu	Phe	Glu	Val	Arg	Ala	Glu	Ala	Gly	Asn	180	185	190
Arg	Lys	His	Phe	Gly	Leu	Asp	Ala	Asp	Val	Ser	Gly	Ser	Leu	Asn	Thr	195	200	205
Glu	Gly	Thr	Leu	Arg	Gly	Arg	Leu	Val	Ser	Thr	Phe	Gly	Arg	Gly	Asp	210	215	220
Ser	Trp	Arg	Arg	Arg	Glu	Arg	Ser	Arg	Asp	Ala	Glu	Leu	Tyr	Gly	Ile	225	230	235
Leu	Glu	Tyr	Asp	Ile	Ala	Pro	Gln	Thr	Arg	Val	His	Ala	Gly	Met	Asp	245	250	255
Tyr	Gln	Gln	Ala	Lys	Glu	Thr	Ala	Asp	Ala	Pro	Leu	Ser	Tyr	Ala	Val	260	265	270
Tyr	Asp	Ser	Gln	Gly	Tyr	Ala	Thr	Ala	Phe	Gly	Pro	Lys	Asp	Asn	Pro	275	280	285
Ala	Thr	Asn	Trp	Ala	Asn	Ser	Arg	His	Arg	Ala	Leu	Asn	Leu	Phe	Ala	290	295	300
Gly	Ile	Glu	His	Arg	Phe	Asn	Gln	Asp	Trp	Lys	Leu	Lys	Ala	Glu	Tyr	305	310	315
Asp	Tyr	Thr	Arg	Ser	Arg	Phe	Arg	Gln	Pro	Tyr	Gly	Val	Ala	Gly	Val	325	330	335
Leu	Ser	Ile	Asp	His	Asn	Thr	Ala	Ala	Thr	Asp	Leu	Ile	Pro	Gly	Tyr	340	345	350
Trp	His	Ala	Asp	Pro	Arg	Thr	His	Ser	Ala	Ser	Val	Ser	Leu	Ile	Gly	355	360	365
Lys	Tyr	Arg	Leu	Phe	Gly	Arg	Glu	His	Asp	Leu	Ile	Ala	Gly	Ile	Asn	370	375	380

Gly	Tyr	Lys	Tyr	Ala	Ser	Asn	Lys	Tyr	Gly	Glu	Arg	Ser	Ile	Ile	Pro	385	390	395	400
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Gln	Pro	Ala	Ser	Phe	Ala	Gln	Thr	Ile	Pro	Gln	Tyr	Gly	Thr	Arg	Arg	420	425	430	
Gln	Ile	Gly	Gly	Tyr	Leu	Ala	Thr	Arg	Phe	Arg	Ala	Ala	Asp	Asn	Leu	435	440	445	
Ser	Leu	Ile	Leu	Gly	Gly	Arg	Tyr	Thr	Arg	Tyr	Arg	Thr	Gly	Ser	Tyr	450	455	460	
Asp	Ser	Arg	Thr	Gln	Gly	Met	Thr	Tyr	Val	Ser	Ala	Asn	Arg	Phe	Thr	465	470	475	480
Pro	Tyr	Thr	Gly	Ile	Val	Phe	Asp	Leu	Thr	Gly	Asn	Leu	Ser	Leu	Tyr	485	490	495	
Gly	Ser	Tyr	Ser	Ser	Leu	Phe	Val	Pro	Gln	Ser	Gln	Lys	Asp	Glu	His	500	505	510	
Gly	Ser	Tyr	Leu	Lys	Pro	Val	Thr	Gly	Asn	Asn	Leu	Glu	Ala	Gly	Ile	515	520	525	
Lys	Gly	Glu	Trp	Leu	Glu	Gly	Arg	Leu	Asn	Ala	Ser	Ala	Ala	Val	Tyr	530	535	540	
Arg	Ala	Arg	Lys	Asn	Asn	Leu	Ala	Thr	Ala	Ala	Gly	Arg	Asp	Pro	Ser	545	550	555	560
Gly	Asn	Thr	Tyr	Tyr	Arg	Ala	Ala	Asn	Gln	Ala	Lys	Thr	His	Gly	Trp	565	570	575	
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Gly	Tyr	Ser	Gln	Ser	Lys	Thr	Arg	Asp	Gln	Asp	Gly	Ser	Arg	Leu	Asn	595	600	605	
Pro	Asp	Ser	Val	Pro	Glu	Arg	Ser	Phe	Lys	Leu	Phe	Thr	Ala	Tyr	His	610	615	620	
Phe	Ala	Pro	Glu	Ala	Pro	Ser	Gly	Trp	Thr	Ile	Gly	Ala	Gly	Val	Arg	625	630	635	640
Trp	Gln	Ser	Glu	Thr	His	Thr	Asp	Pro	Ala	Thr	Leu	Arg	Ile	Pro	Asn	645	650	655	
Pro	Ala	Ala	Lys	Ala	Arg	Ala	Ala	Asp	Asn	Ser	Arg	Gln	Lys	Ala	Tyr	660	665	670	
Ala	Val	Ala	Asp	Ile	Met	Ala	Arg	Tyr	Arg	Phe	Asn	Pro	Arg	Ala	Glu	675	680	685	

Leu Ser Leu Asn Val Asp Asn Leu Phe Asn Lys His Tyr Arg Thr Gln
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Thr Tyr Arg Phe Lys
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 <211> 2178
 <212> DNA
 <213> Neisseria meningitidis

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 <212> PRT

<213> Neisseria meningitidis

<400> 668

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35 40 45
Ser Asn Asp Gly Tyr Thr Val Ser Gly Thr His Thr Pro Leu Gly Leu
50 55 60
Pro Met Thr Leu Arg Glu Ile Pro Gln Ser Val Ser Val Ile Thr Ser
65 70 75 80
Gln Gln Met Arg Asp Gln Asn Ile Lys Ala Leu Asp Arg Ala Leu Leu
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Gln Ala Thr Gly Thr Ser Arg Gln Ile Tyr Gly Ser Asp Arg Ala Gly
100 105 110
Tyr Asn Tyr Leu Phe Ala Arg Gly Ser Arg Ile Ala Asn Tyr Gln Ile
115 120 125
Asn Gly Ile Pro Val Ala Asp Ala Leu Ala Asp Thr Gly Asn Ala Asn
130 135 140
Thr Ala Ala Tyr Glu Arg Val Glu Val Val Arg Gly Val Ala Gly Leu
145 150 155 160
Leu Asp Gly Thr Gly Glu Pro Ser Ala Thr Val Asn Leu Val Arg Lys
165 170 175
Arg Pro Thr Arg Lys Pro Leu Phe Glu Val Arg Ala Glu Ala Gly Asn
180 185 190
Arg Lys His Phe Gly Leu Gly Ala Asp Val Ser Gly Ser Leu Asn Ala
195 200 205
Glu Gly Thr Leu Arg Gly Arg Leu Val Ser Thr Phe Gly Arg Gly Asp
210 215 220
Ser Trp Arg Gln Arg Glu Arg Ser Arg Asp Ala Glu Leu Tyr Gly Ile
225 230 235 240
Leu Glu Tyr Asp Ile Ala Pro Gln Thr Arg Val His Ala Gly Met Asp
245 250 255
Tyr Gln Gln Ala Lys Glu Thr Ala Asp Ala Pro Leu Ser Tyr Ala Val
260 265 270
Tyr Asp Ser Gln Gly Tyr Ala Thr Ala Phe Gly Pro Lys Asp Asn Pro
275 280 285

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Leu	Ser	Ile	Asp	His	Asn	Thr	Ala	Ala	Thr	Asp	Leu	Ile	Pro	Gly	Tyr		
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Trp	His	Ala	Asp	Pro	Arg	Thr	His	Ser	Ala	Ser	Val	Ser	Leu	Ile	Gly		
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Lys	Tyr	Arg	Leu	Phe	Gly	Arg	Glu	His	Asp	Leu	Ile	Ala	Gly	Ile	Asn		
	370					375					380						
Gly	Tyr	Lys	Tyr	Ala	Ser	Asn	Lys	Tyr	Gly	Glu	Arg	Ser	Ile	Ile	Pro		
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Gln	Pro	Ala	Ser	Phe	Ala	Gln	Thr	Ile	Pro	Gln	Tyr	Gly	Thr	Arg	Arg		
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Gln	Ile	Gly	Gly	Tyr	Leu	Ala	Thr	Arg	Phe	Arg	Ala	Ala	Asp	Asn	Leu		
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Ser	Leu	Ile	Leu	Gly	Gly	Arg	Tyr	Ser	Arg	Tyr	Arg	Thr	Gly	Ser	Tyr		
	450					455					460						
Asp	Ser	Arg	Thr	Gln	Gly	Met	Thr	Tyr	Val	Ser	Ala	Asn	Arg	Phe	Thr		
465					470					475					480		
Pro	Tyr	Thr	Gly	Ile	Val	Phe	Asp	Leu	Thr	Gly	Asn	Leu	Ser	Leu	Tyr		
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Gly	Ser	Tyr	Ser	Ser	Leu	Phe	Val	Pro	Gln	Ser	Gln	Lys	Asp	Glu	His		
			500					505					510				
Gly	Ser	Tyr	Leu	Lys	Pro	Val	Thr	Gly	Asn	Asn	Leu	Glu	Ala	Gly	Ile		
	515						520					525					
Lys	Gly	Glu	Trp	Leu	Glu	Gly	Arg	Leu	Asn	Ala	Ser	Ala	Ala	Val	Tyr		
	530					535					540						
Arg	Ala	Arg	Lys	Asn	Asn	Leu	Ala	Thr	Ala	Ala	Gly	Arg	Asp	Pro	Ser		
545				550						555					560		
Gly	Asn	Thr	Tyr	Tyr	Arg	Ala	Ala	Asn	Gln	Ala	Lys	Thr	His	Gly	Trp		
			565					570						575			
Glu	Ile	Glu	Val	Gly	Gly	Arg	Ile	Thr	Pro	Glu	Trp	Gln	Ile	Gln	Ala		
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 595 600 605
 Pro Asp Ser Val Pro Glu Arg Ser Phe Lys Leu Phe Thr Ala Tyr His
 610 615 620
 Phe Ala Pro Glu Ala Pro Ser Gly Trp Thr Ile Gly Ala Gly Val Arg
 625 630 635 640
 Trp Gln Ser Glu Thr His Thr Asp Pro Ala Thr Leu Arg Ile Pro Asn
 645 650 655
 Pro Ala Ala Lys Ala Arg Ala Ala Asp Asn Ser Arg Gln Lys Ala Tyr
 660 665 670
 Ala Val Ala Asp Ile Met Ala Arg Tyr Arg Phe Asn Pro Arg Ala Glu
 675 680 685
 Leu Ser Leu Asn Val Asp Asn Leu Phe Asn Lys His Tyr Arg Thr Gln
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 Thr Tyr Arg Phe Lys
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 <212> DNA
 <213> Neisseria gonorrhoeae

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 <223> N= Unknown

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 <212> PRT
 <213> Neisseria gonorrhoeae

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 Asp Ala Leu Ala Asp Thr Gly Asn Ala Asn Thr Ala Ala Tyr Glu Arg
 35 40 45
 Val Glu Val Val Arg Gly Val Ala Gly Leu Pro Asp Gly Thr Gly Glu

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Pro	Ser	Ala	Thr	Val	Asn	Leu	Val	Arg	Lys	His	Pro	Thr	Arg	Lys	Pro
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Leu	Phe	Glu	Val	Arg	Ala	Glu	Ala	Gly	Asn	Arg	Lys	His	Phe	Gly	Leu
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Gly	Ala	Asp	Val	Ser	Gly	Ser	Leu	Asn	Ala	Glu	Gly	Thr	Leu	Arg	Gly
			100					105						110	
Arg	Leu	Val	Ser	Thr	Phe	Gly	Arg	Gly	Asp	Ser	Trp	Arg	Gln	Leu	Glu
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Arg	Ser	Arg	Asp	Ala	Glu	Leu	Tyr	Gly	Ile	Leu	Glu	Tyr	Asp	Ile	Ala
			130				135					140			
Pro	Gln	Thr	Arg	Val	His	Ala	Gly	Met	Asp	Tyr	Gln	Gln	Ala	Lys	Glu
145					150					155					160
Thr	Ala	Asp	Ala	Pro	Leu	Ser	Tyr	Ala	Val	Tyr	Asp	Ser	Gln	Gly	Tyr
				165					170					175	
Ala	Thr	Ala	Phe	Gly	Pro	Lys	Asp	Asn	Pro	Ala	Thr	Asn	Trp	Ser	Asn
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Thr	Ala	Ala	Thr	Asp	Leu	Ile	Pro	Gly	Tyr	Trp	His	Ala	Asp	Pro	Arg
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 405 410 415
 Val Thr Gly Asn Asn Leu Glu Ala Asp Ile Lys Gly Glu Trp Leu Glu
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 435 440 445
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 450 455 460
 Ala Ala Asn Gln Ala Lys Thr His Gly Trp Glu Ile Glu Val Gly Gly
 465 470 475 480
 Arg Ile Thr Pro Glu Trp Gln Ile Gln Ala Gly Tyr Ser Gln Ser Lys
 485 490 495
 Pro Arg Asp Gln Asp Gly Ser Arg Leu Asn Pro Asp Ser Val Pro Glu
 500 505 510
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 515 520 525
 Ser Gly Arg Thr Ile Gly Ala Gly Val Arg Arg Gln Gly Glu Thr His
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 Thr Asp Pro Ala Ala Leu Arg Ile Pro Asn Pro Ala Ala Lys Ala Arg
 545 550 555 560
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 Ala Arg Tyr Arg Phe Asn Pro Arg Thr Glu Leu Ser Leu Asn Val Asp
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<211> 2178

<212> DNA

<213> Neisseria gonorrhoeae

<400> 671

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<212> PRT

<213> Neisseria gonorrhoeae

<400> 672

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Ser Thr Glu Leu Pro Thr Ile Thr Val Thr Ala Asp Arg Thr Ala Ser
35          40          45

Ser Asn Asp Gly Tyr Thr Val Ser Gly Thr His Thr Pro Phe Gly Leu
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Tyr	Asn	Tyr	Leu	Phe	Ala	Arg	Gly	Ser	Arg	Ile	Ala	Asn	Tyr	Gln	Ile	
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Tyr	Gln	Gln	Ala	Lys	Glu	Thr	Ala	Asp	Ala	Pro	Leu	Ser	Tyr	Ala	Val	
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Trp	His	Ala	Asp	Pro	Arg	Thr	His	Ser	Ala	Ser	Met	Ser	Leu	Thr	Gly	
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Gln	Pro	Ser	Ser	Phe	Ala	Gln	Thr	Ile	Pro	Gln	Tyr	Asp	Thr	Arg	Arg
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	530					535					540				
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	610					615					620				
Leu	Ala	Pro	Glu	Ala	Pro	Ser	Gly	Arg	Thr	Ile	Gly	Ala	Gly	Val	Arg
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Pro	Ala	Ala	Lys	Ala	Arg	Ala	Val	Ala	Asn	Ser	Arg	Gln	Lys	Ala	Tyr
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Ala Val Ala Asp Ile Met Ala Arg Tyr Arg Phe Asn Pro Arg Thr Glu
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Leu Ser Leu Asn Val Asp Asn Leu Phe Asn Lys His Tyr Arg Thr Gln
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caaacggcgg tcatggcttc gagtttgctc agcgtcagca cgcctgcttc ggcggcggca 180
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gaagccatca tgccgccttt ttccacggca tcgttcagca atgccaaagc tgctgttggtg 300
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25

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35 40 45

Leu Ser Ser Val Ser Thr Pro Ala Ser Ala Ala Ala Ile Ile Pro Ser
50 55 60

Ser Ser Glu Thr Gly Ile Asn Ala Pro Leu Lys Pro Pro Thr Ala Leu
65 70 75 80

Glu Ala Ile Met Pro Pro Phe Phe Thr Ala Ser Phe Ser Asn Ala Lys
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<210> 675

<211> 924

<212> DNA

<213> Neisseria meningitidis

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<212> PRT

<213> Neisseria meningitidis

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Ala Ile Ile Ser Lys Pro Thr Glu Gln Thr Ala Val Met Ala Ser Ser

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Ile	Ser	Ala	Val	Arg	Leu	Thr	Val	Ser	Pro	Ala	Ser	Leu	Thr	Ala	Ser
225					230					235					240
Ile	Leu	Ile	Pro	Ala	Arg	Val	Leu	Pro	Ile	Leu	Met	Glu	Leu	His	Thr
				245					250					255	
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			260					265					270		
Ser	Glu	Gly	Asp	Ile	Pro	Phe	Cys	Thr	Asn	Ala	Glu	Lys	Pro	Pro	Ile
		275					280					285			
Lys	Asp	Thr	Pro	Met	Ala	Leu	Ala	Ala	Leu	Ser	Lys	Val	Cys	Ala	Thr
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 <212> DNA

<213> Neisseria meningitidis

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<400> 677

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cccgggccgg	atacgccgac	attaatcaca	gcacccgctt	cgcttgagcc	gtgaaacgcg	600
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 35 40 45
 Leu Ser Asn Val Ser Thr Pro Ala Ser Ala Ala Ala Ile Ile Pro Ser
 50 55 60
 Ser Ser Xaa Thr Gly Ile Asn Ala Pro Leu Lys Pro Pro Thr Ala Leu
 65 70 75 80
 Glu Ala Ile Met Pro Pro Phe Phe Thr Ala Ser Phe Ser Asn Ala Lys
 85 90 95
 Ala Ala Val Val Pro Cys Val Pro Gln Thr Leu Lys Pro Ile Ser Ser
 100 105 110

Arg Met Arg Ala Thr Glu Ser Pro Thr Ala Gly Val Gly Ala Ser Asp
 115 120 125
 Lys Ser Arg Ile Pro Asn Gly Ile Phe Ser Ile Phe Glu Ala Ser Arg
 130 135 140
 Pro Met Ser Ser Pro Thr Arg Val Ile Leu Lys Ala Val Phe Phe Thr
 145 150 155 160
 Thr Ser Ala Thr Ser Val Asn Val Val Ala Ser Glu Phe Ser Asn Ala
 165 170 175
 Ala Phe Thr Thr Pro Gly Pro Asp Thr Pro Thr Leu Ile Thr Ala Ser
 180 185 190
 Ala Ser Pro Glu Pro Asn Ala Pro Ala Ile Xaa Gly Leu Ser Ser Xaa
 195 200 205
 Ala Leu Gln Asn Thr Thr Ile Leu Ala Gln Pro Lys Pro Ser Ser Val
 210 215 220
 Ile Ser Xaa Val Arg Leu Met Val Ser Pro Ala Ser Leu Thr Ala Ser
 225 230 235 240
 Ile Leu Ile Pro Ala Arg Val Leu Pro Ile Leu Met Glu Leu His Thr
 245 250 255
 Ile Ser Val Val Phe Ile Ala Ser Gly Met Glu Arg Xaa Asn Thr Ser
 260 265 270
 Ser Glu Gly Asp Ile Pro Phe Cys Thr Ser Ala Glu Lys Pro Pro Ile
 275 280 285
 Lys Asp Thr Pro Met Ala Leu Ala Ala Leu Ser Lys Val Cys Ala Thr
 290 295 300

Leu Thr
 305

<210> 679
 <211> 924
 <212> DNA
 <213> *Neisseria gonorrhoeae*

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 cagacggcgg tcatggcttc gagtttgtcc agcgtcaaca cgcctgcctc ggcggcggca 180
 atcatacctt cgtcttcgga aacgggggata aacgcgccgc tcaaaccgcc gaccgcgctg 240
 gaagccatca tgccgccctt tttcacggca tcgttcagca atgccaaagc tgctgttggtg 300
 ccgtgcgtac cgcagacgct caagcccatt tcttcaagaa tgcgcgccac cgagtcgccg 360
 acggcggggg tcggtgccag cgacaaatcg agaatgccga acgggatatt cagcattttt 420
 gaggttcgc gaccgatgag ttgcgccacg cgggtgattt tgaaagcggg tttcttcacg 480
 acttcggcga cctcggtcag gctgaccgcg tccgaatttt ccagcgcggc tttgaccacg 540
 cctggaccgg atacgccgac attaatacaca gcatccgctt cgcccagacc gtggaacgca 600
 cccgccataa acggattgtc ttccaccgcg ttgcagaaca cgacgatttt ggcgagccg 660

aaaccttcgg	gtgtgatttc	agccgtgcgt	ttgatggttt	cgccctgccag	cttgaccgca	720
tccatattga	taccggcacg	cgtgctgccg	atattgatgg	agctgcacac	gatatcggt	780
gttttcatcg	cttcgggaac	ggaacggatc	aacacctcat	ccgaaggcga	catacctttt	840
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aaagtctgcg	ccacgctgac	ataa				924

<210> 680
 <211> 307
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 680

Met	Arg	Thr	Ala	Val	Val	Leu	Leu	Leu	Ile	Met	Pro	Met	Ala	Ala	Ser	
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			20					25					30			
Ala	Ile	Met	Ser	Lys	Pro	Thr	Glu	Gln	Thr	Ala	Val	Met	Ala	Ser	Ser	
			35				40					45				
Leu	Ser	Ser	Val	Asn	Thr	Pro	Ala	Ser	Ala	Ala	Ala	Ile	Ile	Pro	Ser	
			50			55					60					
Ser	Ser	Glu	Thr	Gly	Ile	Asn	Ala	Pro	Leu	Lys	Pro	Pro	Thr	Ala	Leu	
65					70					75					80	
Glu	Ala	Ile	Met	Pro	Pro	Phe	Phe	Thr	Ala	Ser	Phe	Ser	Asn	Ala	Lys	
				85					90					95		
Ala	Ala	Val	Val	Pro	Cys	Val	Pro	Gln	Thr	Leu	Lys	Pro	Ile	Ser	Ser	
			100					105					110			
Arg	Met	Arg	Ala	Thr	Glu	Ser	Pro	Thr	Ala	Gly	Val	Gly	Ala	Ser	Asp	
			115				120					125				
Lys	Ser	Arg	Met	Pro	Asn	Gly	Ile	Phe	Ser	Ile	Phe	Glu	Ala	Ser	Arg	
			130			135					140					
Pro	Met	Ser	Ser	Pro	Thr	Arg	Val	Ile	Leu	Lys	Ala	Val	Phe	Phe	Thr	
145					150					155					160	
Thr	Ser	Ala	Thr	Ser	Val	Arg	Leu	Thr	Ala	Ser	Glu	Phe	Ser	Ser	Ala	
				165					170					175		
Ala	Leu	Thr	Thr	Pro	Gly	Pro	Asp	Thr	Pro	Thr	Leu	Ile	Thr	Ala	Ser	
			180					185					190			
Ala	Ser	Pro	Glu	Pro	Trp	Asn	Ala	Pro	Ala	Ile	Asn	Gly	Leu	Ser	Ser	
			195				200					205				
Thr	Ala	Leu	Gln	Asn	Thr	Thr	Ile	Leu	Ala	Gln	Pro	Lys	Pro	Ser	Gly	
			210			215					220					
Val	Ile	Ser	Ala	Val	Arg	Leu	Met	Val	Ser	Pro	Ala	Ser	Leu	Thr	Ala	
225					230					235					240	

Ser Ile Leu Ile Pro Ala Arg Val Leu Pro Ile Leu Met Glu Leu His
 245 250 255

Thr Ile Ser Val Val Phe Ile Ala Ser Gly Thr Glu Arg Ile Asn Thr
 260 265 270

Ser Ser Glu Gly Asp Ile Pro Phe Cys Thr Ser Ala Glu Lys Pro Pro
 275 280 285

Ile Lys Asp Thr Pro Met Ala Leu Ala Ala Leu Ser Lys Val Cys Ala
 290 295 300

Thr Leu Thr
 305

<210> 681
 <211> 183
 <212> DNA
 <213> Neisseria meningitidis

<400> 681
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 aactgccgac aagccgccgc gcaggcagac cggcaggaat acgccgaata cctcaagctg 120
 caatgcgaca cgcggatgac gcgcgaacgg atacagtatc ttgcgcgcta ttccatcgat 180
 tag 183

<210> 682
 <211> 60
 <212> PRT
 <213> Neisseria meningitidis

<400> 682
 Thr Asp Val Gln Lys Glu Leu Val Gly Glu Gln Arg Lys Trp Ala Gln
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Glu Lys Ile Ser Asn Cys Arg Gln Ala Ala Ala Gln Ala Asp Arg Gln
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Glu Tyr Ala Glu Tyr Leu Lys Leu Gln Cys Asp Thr Arg Met Thr Arg
 35 40 45

Glu Arg Ile Gln Tyr Leu Arg Gly Tyr Ser Ile Asp
 50 55 60

<210> 683
 <211> 1017
 <212> DNA
 <213> Neisseria meningitidis

<400> 683
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 gaaccgcca aggcattgga atgcgccaac cccgccgtgt tgcaaggcat acgcggcaat 120
 attcaggaaa cgctcacgca ggaagcgcgt tctttcgcgc gcgaagacgg caggcagttt 180
 gtcgatgccg acaaaattat cgccgccgcc tacggtttgg cgttttcttt ggaacacgct 240
 tcggaaacgc aggaaggcgg gcgcacgttc tgtatcgccg atttgaacat taccgtgccg 300
 tctgaaacgc ttgccgatgc caaggcaaac agccccctgt tgtacgggga aactgctttg 360

tcggatattg	tgcggcagaa	gacgggcggc	aatgtcagag	ttaaagacgg	cgtattgacg	420
gcagccgtcc	gcttcctgcc	cgtcaaagac	ggtcagacgg	catttgtcga	caacacggtc	480
ggtatggcgg	cgcaaacgct	gtctgcccg	ctgctgcctt	acggcgtgaa	gagcatcgtg	540
atgatagacg	gcaaggcggt	gaaaaaagaa	gacgcggtca	ggattttgag	cggaaaaagcc	600
cgtgaagaag	aaccgtccaa	acccacgccc	gaagacattt	tggaacacaa	tgccgccggc	660
ggcgatgcgg	gcgtacccca	agccgcagaa	ggcgcgccc	aaccggaaat	cctgcatcct	720
gacgacggcg	agcgtgccga	taccgttacc	gtatcacggg	gcgaagtgga	agaggcgcg	780
gtacaaaacc	agcgtgcgga	atccgaaatt	accaaacttt	ggggaggact	cgataccgac	840
gtgcaaaaag	agttggtcgg	cgaacaacgc	aagtgggcgc	aggaaaaaat	cagcaactgc	900
cgacaagccg	ccgcgcaggc	agaccggcag	gaatacgccg	aatacctcaa	gctgcaatgc	960
gacacgcgga	tgacgcgcga	acggatacag	tatcttcgcg	gctattccat	cgattag	1017

<210> 684
 <211> 338
 <212> PRT
 <213> Neisseria meningitidis

<400> 684
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 20 25 30
 Val Leu Gln Gly Ile Arg Gly Asn Ile Gln Glu Thr Leu Thr Gln Glu
 35 40 45
 Ala Arg Ser Phe Ala Arg Glu Asp Gly Arg Gln Phe Val Asp Ala Asp
 50 55 60
 Lys Ile Ile Ala Ala Ala Tyr Gly Leu Ala Phe Ser Leu Glu His Ala
 65 70 75 80
 Ser Glu Thr Gln Glu Gly Gly Arg Thr Phe Cys Ile Ala Asp Leu Asn
 85 90 95
 Ile Thr Val Pro Ser Glu Thr Leu Ala Asp Ala Lys Ala Asn Ser Pro
 100 105 110
 Leu Leu Tyr Gly Glu Thr Ala Leu Ser Asp Ile Val Arg Gln Lys Thr
 115 120 125
 Gly Gly Asn Val Glu Phe Lys Asp Gly Val Leu Thr Ala Ala Val Arg
 130 135 140
 Phe Leu Pro Val Lys Asp Gly Gln Thr Ala Phe Val Asp Asn Thr Val
 145 150 155 160
 Gly Met Ala Ala Gln Thr Leu Ser Ala Ala Leu Leu Pro Tyr Gly Val
 165 170 175
 Lys Ser Ile Val Met Ile Asp Gly Lys Ala Val Lys Lys Glu Asp Ala
 180 185 190
 Val Arg Ile Leu Ser Gly Lys Ala Arg Glu Glu Glu Pro Ser Lys Pro
 195 200 205

Thr Pro Glu Asp Ile Leu Glu His Asn Ala Ala Gly Gly Asp Ala Gly
 210 215 220
 Val Pro Gln Ala Ala Glu Gly Ala Pro Glu Pro Glu Ile Leu His Pro
 225 230 235 240
 Asp Asp Gly Glu Arg Ala Asp Thr Val Thr Val Ser Arg Gly Glu Val
 245 250 255
 Glu Glu Ala Arg Val Gln Asn Gln Arg Ala Glu Ser Glu Ile Thr Lys
 260 265 270
 Leu Trp Gly Gly Leu Asp Thr Asp Val Gln Lys Glu Leu Val Gly Glu
 275 280 285
 Gln Arg Lys Trp Ala Gln Glu Lys Ile Ser Asn Cys Arg Gln Ala Ala
 290 295 300
 Ala Gln Ala Asp Arg Gln Glu Tyr Ala Glu Tyr Leu Lys Leu Gln Cys
 305 310 315 320
 Asp Thr Arg Met Thr Arg Glu Arg Ile Gln Tyr Leu Arg Gly Tyr Ser
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<210> 685
 <211> 1017
 <212> DNA
 <213> Neisseria meningitidis

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<223> N= Unknown

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<223> N= Unknown

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<223> N= Unknown

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<222> (780)..(780)
<223> N= Unknown

<220>
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<222> (865)..(865)
<223> N= Unknown

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attcaggaaa cgctcacgca ggaagcgcggt tctttcgcgc gcgaagacng cangcagttt 180
gtcgatgccg acnaaattat cgccgccgcc tangntnngn ngntntcttt ggaacacgct 240
tcggaaacgc aggaaggcgg gcgcacgttc tgtntcgccg atttgaacat taccgtgccg 300
tctgaaacgc ttgccgatgc caaggcaaac agccccctgc tgtacgggga aaccgctttg 360
tcggatattg tgcggcagaa gacgggcggc aatgtcgagt ttaaagacgg cgtattgacg 420
gcagccgtcc gcttcctacc cgtcaaagac ggtcagangg catttgtcga caacacggtc 480
ggtatggcgg cgcaaacgct gtctgccgcg ttgctgcctt acggcgtgaa gagcatcggtg 540
atgatagacg gcaaggcggg aaaaaaagaa gacgcgggtc ggattntgag cnganaagcc 600
cgtgaanaag aaccgtccaa anccnngccc gaagacattt tggaacataa tgccgccgga 660
ggggatgcag acgtacccca agccggagaa gacgcgcccg aaccggaaat cctgcatcct 720
gacgacggcg agcgtgccga taccgttacc gtatcacggg gcgaagtggg agaggcgcg 780
gtacaaaacc agcgtgcgga atccgaaatt accaaacttt ggggaggact cgataccgac 840
gtgcaaaaag agttggtcgg cgaanaacgc aagtgggcgc agggaaaaat cagcaactgc 900
cgacaagccg ccgcgcaggg agaccggcag gaatacgccg aatacctcaa gctgcaatgc 960
gacacgcgga tgacgcgcga acggatacag tatcttcgcg gctattccat cgattag 1017

<210> 686
<211> 338
<212> PRT
<213> Neisseria meningitidis

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<222> (39)..(39)

<223> Xaa= any amino acid

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<222> (57)..(58)

<223> Xaa= any amino acid

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<221> misc_feature

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<222> (92)..(92)

<223> Xaa= any amino acid

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<222> (153)..(153)

<223> Xaa= any amino acid

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<222> (196)..(196)

<223> Xaa= any amino acid

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<223> Xaa= any amino acid

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<222> (289)..(289)

<223> Xaa= any amino acid

<400> 686

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10

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Cys	Gly	Arg	Glu	Glu	Pro	Pro	Lys	Ala	Leu	Glu	Cys	Ala	Asn	Pro	Ala		
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Val	Leu	Gln	Xaa	Ile	Arg	Xaa	Asn	Ile	Gln	Glu	Thr	Leu	Thr	Gln	Glu		
		35					40					45					
Ala	Arg	Ser	Phe	Ala	Arg	Glu	Asp	Xaa	Xaa	Gln	Phe	Val	Asp	Ala	Asp		
	50					55					60						
Xaa	Ile	Ile	Ala	Ala	Ala	Xaa	Xaa	Xaa	Xaa	Xaa	Ser	Leu	Glu	His	Ala		
65					70					75					80		
Ser	Glu	Thr	Gln	Glu	Gly	Gly	Arg	Thr	Phe	Cys	Xaa	Ala	Asp	Leu	Asn		
			85					90						95			
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		115					120					125					
Gly	Gly	Asn	Val	Glu	Phe	Lys	Asp	Gly	Val	Leu	Thr	Ala	Ala	Val	Arg		
	130					135					140						
Phe	Leu	Pro	Val	Lys	Asp	Gly	Gln	Xaa	Ala	Phe	Val	Asp	Asn	Thr	Val		
145				150				155							160		
Gly	Met	Ala	Ala	Gln	Thr	Leu	Ser	Ala	Ala	Leu	Leu	Pro	Tyr	Gly	Val		
			165					170						175			
Lys	Ser	Ile	Val	Met	Ile	Asp	Gly	Lys	Ala	Val	Lys	Lys	Glu	Asp	Ala		
		180					185						190				
Val	Arg	Ile	Xaa	Ser	Xaa	Xaa	Ala	Arg	Glu	Xaa	Glu	Pro	Ser	Lys	Xaa		
	195						200					205					
Xaa	Pro	Glu	Asp	Ile	Leu	Glu	His	Asn	Ala	Ala	Gly	Gly	Asp	Ala	Asp		
210					215						220						
Val	Pro	Gln	Ala	Gly	Glu	Asp	Ala	Pro	Glu	Pro	Glu	Ile	Leu	His	Pro		
225					230				235						240		
Asp	Asp	Gly	Glu	Arg	Ala	Asp	Thr	Val	Thr	Val	Ser	Arg	Gly	Glu	Val		
				245				250					255				
Glu	Glu	Ala	Arg	Val	Gln	Asn	Gln	Arg	Ala	Glu	Ser	Glu	Ile	Thr	Lys		
		260					265						270				
Leu	Trp	Gly	Gly	Leu	Asp	Thr	Asp	Val	Gln	Lys	Glu	Leu	Val	Gly	Glu		
	275						280					285					
Xaa	Arg	Lys	Trp	Ala	Gln	Glu	Lys	Ile	Ser	Asn	Cys	Arg	Gln	Ala	Ala		
290					295					300							
Ala	Gln	Ala	Asp	Arg	Gln	Glu	Tyr	Ala	Glu	Tyr	Leu	Lys	Leu	Gln	Cys		
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Asp Thr Arg Met Thr Arg Glu Arg Ile Gln Tyr Leu Arg Gly Tyr Ser
 325 330 335

Ile Asp

<210> 687
 <211> 1017
 <212> DNA
 <213> Neisseria gonorrhoeae

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 attcaggaaa cgctcacgca ggaagcgcgt tctttcgcgc gcgaagacgg caggcagttt 180
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 tcggaaacgc aggaaggcgg gcgcacgttc tgtatcgccg atttgaacat taccgtgccg 300
 tctgaaacgc ttgccgatgc cgaggcaaac agccccctgc tgtatgggga aacgtctttg 360
 gcagacatcg tgcagcagaa gacggggcggc aatgtcgagt ttaaagacgg cgtattgacg 420
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 ggcgatgccg gcgtaccca agccgcagaa ggcgcacccg aacccgaaat cctgcatccc 720
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<210> 688
 <211> 338
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 688
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 20 25 30
 Val Leu Gln Asp Ile Arg Gly Ser Ile Gln Glu Thr Leu Thr Gln Glu
 35 40 45
 Ala Arg Ser Phe Ala Arg Glu Asp Gly Arg Gln Phe Val Asp Ala Asp
 50 55 60
 Lys Ile Ile Ala Ala Ala Tyr Gly Leu Ala Phe Ser Leu Glu His Ala
 65 70 75 80
 Ser Glu Thr Gln Glu Gly Gly Arg Thr Phe Cys Ile Ala Asp Leu Asn
 85 90 95
 Ile Thr Val Pro Ser Glu Thr Leu Ala Asp Ala Glu Ala Asn Ser Pro
 100 105 110

Leu Leu Tyr Gly Glu Thr Ser Leu Ala Asp Ile Val Gln Gln Lys Thr
 115 120 125
 Gly Gly Asn Val Glu Phe Lys Asp Gly Val Leu Thr Ala Ala Val Arg
 130 135 140
 Phe Leu Pro Ala Lys Asp Ala Arg Thr Ala Phe Ile Asp Asn Thr Val
 145 150 155 160
 Gly Met Ala Thr Gln Thr Leu Ser Ala Ala Leu Leu Pro Tyr Gly Val
 165 170 175
 Lys Ser Ile Val Met Ile Asp Gly Lys Ala Val Thr Lys Glu Asp Ala
 180 185 190
 Val Arg Val Leu Ser Gly Lys Ala Arg Glu Glu Glu Pro Ser Lys Pro
 195 200 205
 Thr Pro Glu Asp Ile Leu Glu His Asn Ala Ala Gly Gly Asp Ala Gly
 210 215 220
 Val Pro Gln Ala Ala Glu Gly Ala Pro Glu Pro Glu Ile Leu His Pro
 225 230 235 240
 Asp Asp Val Glu Arg Ala Asp Thr Val Thr Val Ser Arg Gly Glu Val
 245 250 255
 Glu Glu Ala Arg Val Gln Asn Gln Arg Ala Glu Ser Glu Ile Thr Lys
 260 265 270
 Leu Trp Gly Gly Leu Asp Thr Asp Val Gln Lys Glu Leu Val Gly Glu
 275 280 285
 Gln Arg Lys Trp Ala Gln Glu Lys Ile Ser Asn Cys Arg Gln Ala Ala
 290 295 300
 Ala Gln Ala Asp Arg Gln Glu Tyr Ala Glu Tyr Leu Lys Leu Gln Cys
 305 310 315 320
 Asp Thr Arg Met Thr Arg Glu Arg Ile Gln Tyr Leu Arg Gly Tyr Ser
 325 330 335

Ile Asp

<210> 689
 <211> 909
 <212> DNA
 <213> Neisseria meningitidis

<400> 689
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 gttgcctttt tggtcggcgg caaccccgctc gacgggtctga cacacctgaa agacatgggc 180
 gtcggcttgg cttggtcaga cgsygattgg tcgctgggca aacaaaaaat cttgggttttc 240
 ckgatacttt tgggtatttt tacttcctcg ctgacctact ccggcagcaa tacttcgctg 300

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accgccgact atcccaaagc cgtttggcag ggtgcgaaat ctatgttcgg cgcaatcgcc 420
attttaatcc tcgcttggct catcagtagc gttgtcggcg aaatgcacac cggcgattac 480
ctctccacac tggttgcggt caacatccat cccggcttcc tgcccgatcat cctcttcctg 540
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ccgattgccg ccgccatggc ggtcaaagtc gaaccgcgcg tgattatccc gtgtatgtcc 660
gcagtaatgg cggggggcgg atgcggcgac cactgctcgc ccatttccga cagcaccatc 720
ctgtcgtcca cgggcgcgcg ctgcaaccac atcgaccacg ttacctcgca actgccttac 780
gccttaaccg ttgccgcgcg cgccgcacgc ggctacctcg cattgggtct gacaaaatcc 840
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gataaaaaa 909

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<210> 690
<211> 303
<212> PRT
<213> Neisseria meningitidis

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<220>
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<222> (39)..(40)
<223> Xaa= any amino acid

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<220>
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<222> (68)..(68)
<223> Xaa= any amino acid

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<220>
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<223> Xaa= any amino acid

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Phe Leu Ala Leu Ala Leu Ala Val Ile Thr Arg Arg Val Leu Leu Ser
20           25           30

Leu Gly Ile Gly Ile Leu Xaa Xaa Val Ala Phe Leu Val Gly Gly Asn
35           40           45

Pro Val Asp Gly Leu Thr His Leu Lys Asp Met Val Val Gly Leu Ala
50           55           60

Trp Ser Asp Xaa Asp Trp Ser Leu Gly Lys Pro Lys Ile Leu Val Phe
65           70           75           80

Xaa Ile Leu Leu Gly Ile Phe Thr Ser Leu Leu Thr Tyr Ser Gly Ser
85           90           95

Asn Thr Ser Leu Val Phe Gly Gly Thr Cys Gly Val Phe Ala Val Val
100          105          110

Leu Cys Thr Leu Gly Thr Ile Lys Thr Ala Asp Tyr Pro Lys Ala Val
115          120          125

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Trp Gln Gly Ala Lys Ser Met Phe Gly Ala Ile Ala Ile Leu Ile Leu
 130 135 140
 Ala Trp Leu Ile Ser Thr Val Val Gly Glu Met His Thr Gly Asp Tyr
 145 150 155 160
 Leu Ser Thr Leu Val Ala Gly Asn Ile His Pro Gly Phe Leu Pro Val
 165 170 175
 Ile Leu Phe Leu Leu Ala Ser Val Met Ala Phe Ala Thr Gly Thr Ser
 180 185 190
 Trp Gly Thr Phe Gly Ile Met Leu Pro Ile Ala Ala Ala Met Ala Val
 195 200 205
 Lys Val Glu Pro Ala Leu Ile Ile Pro Cys Met Ser Ala Val Met Ala
 210 215 220
 Gly Ala Val Cys Gly Asp His Cys Ser Pro Ile Ser Asp Thr Thr Ile
 225 230 235 240
 Leu Ser Ser Thr Gly Ala Arg Cys Asn His Ile Asp His Val Thr Ser
 245 250 255
 Gln Leu Pro Tyr Ala Leu Thr Val Ala Ala Ala Ala Ala Ser Gly Tyr
 260 265 270
 Leu Ala Leu Gly Leu Thr Lys Ser Ala Leu Leu Gly Phe Gly Thr Thr
 275 280 285
 Gly Ile Val Leu Ala Val Leu Ile Phe Leu Leu Lys Asp Lys Lys
 290 295 300

<210> 691
 <211> 1521
 <212> DNA
 <213> Neisseria meningitidis

<400> 691
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 gttgcctttt tggtcggcgg caaccccgtc gacggtctga cacacctgaa agacatggtc 180
 gtcggcttgg cttggtcaga cggcgattgg tcgctgggca aacaaaaaat cttgggtttc 240
 ctgatacttt tgggtatttt tacttccctg ctgacctact ccggcagcaa tcaggcggtt 300
 gccgactggg caaaacggca cattaataaac cggcgcgggc cgaaaatgct gaccgcctgc 360
 ctctgtttcg taacctttat cgacgactat ttccacagtc tcgccgtcgg tgcgattgcc 420
 cgccccgtta ccgacaagtt taaagtttcc cgcaccaaac tcgcctacat cctcgactcc 480
 actgccgctc ctatgtgcgt gctgatgccc gtttcaagct ggggcgcgct gattatcgcc 540
 acgcttgccg gactgctcgt tacctacaaa atcacccaat acacgccgat ggggacgttt 600
 gtcgccatga gcctgatgaa ctattacgca ctgtttgccc tgattatggt gttcgtcgtc 660
 gcatggtttt ctttcgacat cggctcgatg gcacgtttcg aacaagccgc gttgaacgaa 720
 gccacgatg aaactgccgt ttcagacgct accaaaggct gtgtttacgc actgattatt 780
 cccgttttgg ccttaatcgc ctcaacggtt tccgccatga tctacaccgg cgcgcaggca 840
 agcgaaacct tcagcatttt gggggcattt gaaaacacgg acgtaaacac ttcgctggta 900
 ttccggcgca cttgcggcgt cttgcgctg gttctctgca cgctcggcac gattaaaacc 960
 gccgactatc ccaaagccgt ttggcagggt gcgaaatcta tggtcggcgc aatcgccatt 1020

ttaatcctcg	cttgggtcat	cagtacgggt	gtcggcgaaa	tgcacaccgg	cgattacctc	1080
tccacactgg	ttgcgggcaa	catccatccc	ggcttcctgc	ccgtcatcct	cttcctgctc	1140
gccagcgtga	tggcggttgc	cacaggcaca	agctggggga	cgttcggcat	tatgctgccg	1200
attgccgccg	ccatggcggt	caaagtcgaa	cccgcgctga	ttatcccgtg	tatgtccgca	1260
gtaatggcgg	gggcggtatg	cggcgaccac	tgctcgccca	tttccgacac	gaccatcctg	1320
tcgtccaccg	gcgcgcgctg	caaccacatc	gaccacgtta	cctcgcaact	gccttacgcc	1380
ttaaccgttg	ccgccgcgcg	cgcacgcggc	tacctcgcat	tgggtctgac	aaaatccgcg	1440
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aaaaaacgcg	ccaacgcctg	a				1521

<210> 692
 <211> 506
 <212> PRT
 <213> Neisseria meningitidis

<400> 692

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Phe	Leu	Ala	Leu	Ala	Leu	Ala	Val	Ile	Thr	Arg	Arg	Val	Leu	Leu	Ser	
			20					25					30			
Leu	Gly	Ile	Gly	Ile	Leu	Val	Gly	Val	Ala	Phe	Leu	Val	Gly	Gly	Asn	
		35					40					45				
Pro	Val	Asp	Gly	Leu	Thr	His	Leu	Lys	Asp	Met	Val	Val	Gly	Leu	Ala	
	50					55					60					
Trp	Ser	Asp	Gly	Asp	Trp	Ser	Leu	Gly	Lys	Pro	Lys	Ile	Leu	Val	Phe	
65					70				75						80	
Leu	Ile	Leu	Leu	Gly	Ile	Phe	Thr	Ser	Leu	Leu	Thr	Tyr	Ser	Gly	Ser	
				85				90						95		
Asn	Gln	Ala	Phe	Ala	Asp	Trp	Ala	Lys	Arg	His	Ile	Lys	Asn	Arg	Arg	
		100						105					110			
Gly	Ala	Lys	Met	Leu	Thr	Ala	Cys	Leu	Val	Phe	Val	Thr	Phe	Ile	Asp	
		115					120					125				
Asp	Tyr	Phe	His	Ser	Leu	Ala	Val	Gly	Ala	Ile	Ala	Arg	Pro	Val	Thr	
	130					135					140					
Asp	Lys	Phe	Lys	Val	Ser	Arg	Thr	Lys	Leu	Ala	Tyr	Ile	Leu	Asp	Ser	
145					150					155				160		
Thr	Ala	Ala	Pro	Met	Cys	Val	Leu	Met	Pro	Val	Ser	Ser	Trp	Gly	Ala	
				165					170					175		
Ser	Ile	Ile	Ala	Thr	Leu	Ala	Gly	Leu	Leu	Val	Thr	Tyr	Lys	Ile	Thr	
			180					185					190			
Glu	Tyr	Thr	Pro	Met	Gly	Thr	Phe	Val	Ala	Met	Ser	Leu	Met	Asn	Tyr	
	195						200					205				
Tyr	Ala	Leu	Phe	Ala	Leu	Ile	Met	Val	Phe	Val	Val	Ala	Trp	Phe	Ser	

210	215	220
Phe Asp Ile Gly Ser Met Ala Arg Phe Glu Gln Ala Ala Leu Asn Glu 225 230 235 240		
Ala His Asp Glu Thr Ala Val Ser Asp Ala Thr Lys Gly Arg Val Tyr 245 250 255		
Ala Leu Ile Ile Pro Val Leu Ala Leu Ile Ala Ser Thr Val Ser Ala 260 265 270		
Met Ile Tyr Thr Gly Ala Gln Ala Ser Glu Thr Phe Ser Ile Leu Gly 275 280 285		
Ala Phe Glu Asn Thr Asp Val Asn Thr Ser Leu Val Phe Gly Gly Thr 290 295 300		
Cys Gly Val Leu Ala Val Val Leu Cys Thr Leu Gly Thr Ile Lys Thr 305 310 315 320		
Ala Asp Tyr Pro Lys Ala Val Trp Gln Gly Ala Lys Ser Met Phe Gly 325 330 335		
Ala Ile Ala Ile Leu Ile Leu Ala Trp Leu Ile Ser Thr Val Val Gly 340 345 350		
Glu Met His Thr Gly Asp Tyr Leu Ser Thr Leu Val Ala Gly Asn Ile 355 360 365		
His Pro Gly Phe Leu Pro Val Ile Leu Phe Leu Leu Ala Ser Val Met 370 375 380		
Ala Phe Ala Thr Gly Thr Ser Trp Gly Thr Phe Gly Ile Met Leu Pro 385 390 395 400		
Ile Ala Ala Ala Met Ala Val Lys Val Glu Pro Ala Leu Ile Ile Pro 405 410 415		
Cys Met Ser Ala Val Met Ala Gly Ala Val Cys Gly Asp His Cys Ser 420 425 430		
Pro Ile Ser Asp Thr Thr Ile Leu Ser Ser Thr Gly Ala Arg Cys Asn 435 440 445		
His Ile Asp His Val Thr Ser Gln Leu Pro Tyr Ala Leu Thr Val Ala 450 455 460		
Ala Ala Ala Ala Ser Gly Tyr Leu Ala Leu Gly Leu Thr Lys Ser Ala 465 470 475 480		
Leu Leu Gly Phe Gly Thr Thr Gly Ile Val Leu Ala Val Leu Ile Phe 485 490 495		
Leu Leu Lys Asp Lys Lys Arg Ala Asn Ala 500 505		

<210> 693
<211> 1521
<212> DNA
<213> *Neisseria meningitidis*

<220>
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<222> (229)..(229)
<223> N= Unknown

<220>
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<222> (415)..(415)
<223> N= Unknown

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<223> N= Unknown

<220>
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<223> N= Unknown

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<223> N= Unknown

<220>
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<222> (1457)..(1457)
<223> N= Unknown

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gttgccctttt tggtcggcgg caaccccgctc gacgggtctga cacacctgaa agacatggtc 180
gtcggccttgg cttgggtcaga cggcgattgg tcgctgggca aacccaaaant cttgggttttc 240
ctgatacttt tgggtatttt tacttccctg ctgacctact ccggcagcaa tcaggcggtt 300
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cgccccgtta ccgacaagtt taaagtttcc cgcgcctaac tcgcctacat cctcgactcc 480
actgccgcgc ctatgtgcgt gctgatgccc gtttcaagct ggggcgcgct gattatcgcc 540
acgcttgccg gactgctcgt tactacaaa atcacccaat acacgcgat ggggacgttt 600
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gccgattatc ccaaagccgt ttggcagggg gcgaaatcca tgttcggcgc aatcgccatt 1020
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tccacgtgg ttgcgggcaa catccatccc ggcttcctgn ccgtcatcct ttctctgctc 1140
gccagcgtga tggcgtttgc cacaggcaca agctggggga cgttcggcat catgctgccg 1200

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tcgtccaccg	gcgcgcgctg	caaccacatc	gaccacgtta	cntcgcaact	gccttacgcc	1380
ttaaccgttg	ccgcgcgcgc	cgcacgcggg	tacctcgcgc	tgggtctgac	aaaatccgcg	1440
ctgttgggtt	ttggcangac	aggcattgta	ttggcggtgc	tgatttttct	gttgaaagat	1500
aaaaaacgcg	ccaacgcctg	a				1521

<210> 694
 <211> 506
 <212> PRT
 <213> Neisseria meningitidis

<220>
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 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (139)..(139)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (374)..(374)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (486)..(486)
 <223> Xaa= any amino acid

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 Phe Leu Ala Leu Ala Leu Ala Val Ile Thr Arg Arg Val Leu Leu Ser
 20 25 30
 Leu Gly Ile Gly Ile Leu Val Gly Val Ala Phe Leu Val Gly Gly Asn
 35 40 45
 Pro Val Asp Gly Leu Thr His Leu Lys Asp Met Val Val Gly Leu Ala
 50 55 60
 Trp Ser Asp Gly Asp Trp Ser Leu Gly Lys Pro Lys Xaa Leu Val Phe
 65 70 75 80
 Leu Ile Leu Leu Gly Ile Phe Thr Ser Leu Leu Thr Tyr Ser Gly Ser
 85 90 95
 Asn Gln Ala Phe Ala Asp Trp Ala Lys Arg His Ile Lys Asn Arg Arg
 100 105 110
 Gly Ala Lys Met Leu Thr Ala Cys Leu Val Phe Val Thr Phe Ile Asp
 115 120 125

Asp	Tyr	Phe	His	Ser	Leu	Ala	Val	Gly	Ala	Xaa	Ala	Arg	Pro	Val	Thr	130	135	140
Asp	Lys	Phe	Lys	Val	Ser	Arg	Ala	Lys	Leu	Ala	Tyr	Ile	Leu	Asp	Ser	145	150	155
Thr	Ala	Ala	Pro	Met	Cys	Val	Leu	Met	Pro	Val	Ser	Ser	Trp	Gly	Ala	165	170	175
Ser	Ile	Ile	Ala	Thr	Leu	Ala	Gly	Leu	Leu	Val	Thr	Tyr	Lys	Ile	Thr	180	185	190
Glu	Tyr	Thr	Pro	Met	Gly	Thr	Phe	Val	Ala	Met	Ser	Leu	Met	Asn	Tyr	195	200	205
Tyr	Ala	Leu	Phe	Ala	Leu	Ile	Met	Val	Phe	Val	Val	Ala	Trp	Phe	Ser	210	215	220
Phe	Asp	Ile	Gly	Ser	Met	Ala	Arg	Phe	Glu	Gln	Ala	Ala	Leu	Asn	Glu	225	230	235
Ala	His	Asp	Glu	Thr	Ala	Val	Ser	Asp	Gly	Ser	Trp	Gly	Arg	Val	Tyr	245	250	255
Ala	Leu	Ile	Ile	Pro	Val	Leu	Ala	Leu	Ile	Ala	Ser	Thr	Val	Ser	Ala	260	265	270
Met	Ile	Tyr	Thr	Gly	Ala	Gln	Ala	Ser	Glu	Thr	Phe	Ser	Ile	Leu	Gly	275	280	285
Ala	Phe	Glu	Asn	Thr	Asp	Val	Asn	Thr	Ser	Leu	Val	Phe	Gly	Gly	Thr	290	295	300
Cys	Gly	Val	Leu	Ala	Val	Val	Leu	Cys	Thr	Leu	Gly	Thr	Ile	Lys	Ile	305	310	315
Ala	Asp	Tyr	Pro	Lys	Ala	Val	Trp	Gln	Gly	Ala	Lys	Ser	Met	Phe	Gly	325	330	335
Ala	Ile	Ala	Ile	Leu	Ile	Leu	Ala	Trp	Leu	Ile	Ser	Thr	Val	Val	Gly	340	345	350
Glu	Met	His	Thr	Gly	Asp	Tyr	Leu	Ser	Thr	Leu	Val	Ala	Gly	Asn	Ile	355	360	365
His	Pro	Gly	Phe	Leu	Xaa	Val	Ile	Leu	Phe	Leu	Leu	Ala	Ser	Val	Met	370	375	380
Ala	Phe	Ala	Thr	Gly	Thr	Ser	Trp	Gly	Thr	Phe	Gly	Ile	Met	Leu	Pro	385	390	395
Ile	Ala	Ala	Ala	Met	Ala	Val	Lys	Val	Asp	Pro	Ser	Leu	Ile	Ile	Pro	405	410	415
Cys	Met	Ser	Ala	Val	Met	Ala	Gly	Ala	Val	Cys	Gly	Asp	His	Cys	Ser	420	425	430

Pro Ile Ser Asp Thr Thr Ile Leu Ser Ser Thr Gly Ala Arg Cys Asn
 435 440 445

His Ile Asp His Val Thr Ser Gln Leu Pro Tyr Ala Leu Thr Val Ala
 450 455 460

Ala Ala Ala Ala Ser Gly Tyr Leu Ala Leu Gly Leu Thr Lys Ser Ala
 465 470 475 480

Leu Leu Gly Phe Gly Xaa Thr Gly Ile Val Leu Ala Val Leu Ile Phe
 485 490 495

Leu Leu Lys Asp Lys Lys Arg Ala Asn Ala
 500 505

<210> 695
 <211> 1521
 <212> DNA
 <213> Neisseria gonorrhoeae

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 gttgcctttt tggtcggcgg caaccccgtc gacggtctga cacacctgaa agacatggtc 180
 gtcggccttg cttgggcaga cggcgattgg tcgctgggca aacaaaaaat cttggttttc 240
 ctgatacttt tgggcatttt cacttcactg ctgacctact ccggcagcaa tcaggcgctt 300
 gccgactggg caaaacggca cattaanaac cgggtgcggcg cgaaaatgct gaccgcctgc 360
 ctgctgttcg taacctttat cgacgactat ttccacagcc tcgcgcgcgg tgcgattgcc 420
 cgccccgtta ccgacaagtt taaagtttcc cgcgccaaac tcgcctacat cctcgactcc 480
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 gtcgccatga gcctgatgaa ctattacgcy ctgtttgccc tgattatggt attcgtcgtc 660
 gcatgggttct ccttcgacat cggctcgatg gcgcgtttcg aacaggctgc gttgaacgaa 720
 gcccaggacg aaaccgccc ttcagacgct accaaaggct gtgtttacgc attgattatt 780
 cccgtttttg ccttaatcgc ctcaacgggt tccgccatga tctacaccgg cgcgcaggca 840
 agcgaaacct tcagcatttt gggggcattt gaaaataacc acgtaaacac ttcgctggta 900
 ttccggcgga cttgcggcgt gcttgccgct gtcctctgca cgttcggcac gattaaaacc 960
 gccgattatc ccaaagccgt gtggcagggt gcgaaatcca tgttcggcgc aatcgccatt 1020
 ttaatcctcg cctggctcat cagtacgggt gtcggcgaaa tgcacacggg cgactacctc 1080
 tccacgctgg ttgcgggcaa catccatccc ggcttctcgc ccgtcatcct cttcctgctc 1140
 gccagcgtga tggcgtttgc cacaggcaca agctggggga cgttcggcat tatgctgccg 1200
 attgccgccg ccatggcgggt caaagtcgaa cccgcgctga ttatcccggt tatgtccgca 1260
 gtaatggcgg gggcggtatg cggcgaccac tgttcgccca tctccgacac gaccatcctg 1320
 tcgtccaccg gcgcgcgctg caaccacatc gaccacgtta cctcgcaact gccttatgcc 1380
 ctgacgggtt ccgccgccgc cgcacgggc tacctcgcac tgggtctgac aaaatccgcy 1440
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 aaaaaacgcg ccgacgtttg a 1521

<210> 696
 <211> 506
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 696
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Leu	Gly	Ile	Gly	Ile	Leu	Val	Gly	Val	Ala	Phe	Leu	Val	Gly	Gly	Asn	35	40	45
Pro	Val	Asp	Gly	Leu	Thr	His	Leu	Lys	Asp	Met	Val	Val	Gly	Leu	Ala	50	55	60
Trp	Ala	Asp	Gly	Asp	Trp	Ser	Leu	Gly	Lys	Pro	Lys	Ile	Leu	Val	Phe	65	70	75
Leu	Ile	Leu	Leu	Gly	Ile	Phe	Thr	Ser	Leu	Leu	Thr	Tyr	Ser	Gly	Ser	85	90	95
Asn	Gln	Ala	Phe	Ala	Asp	Trp	Ala	Lys	Arg	His	Ile	Lys	Asn	Arg	Cys	100	105	110
Gly	Ala	Lys	Met	Leu	Thr	Ala	Cys	Leu	Val	Phe	Val	Thr	Phe	Ile	Asp	115	120	125
Asp	Tyr	Phe	His	Ser	Leu	Ala	Val	Gly	Ala	Ile	Ala	Arg	Pro	Val	Thr	130	135	140
Asp	Lys	Phe	Lys	Val	Ser	Arg	Ala	Lys	Leu	Ala	Tyr	Ile	Leu	Asp	Ser	145	150	155
Thr	Ala	Ser	Pro	Met	Cys	Val	Leu	Met	Pro	Val	Ser	Ser	Trp	Gly	Ala	165	170	175
Ser	Ile	Ile	Ala	Thr	Leu	Ala	Gly	Leu	Leu	Val	Thr	Tyr	Lys	Ile	Thr	180	185	190
Glu	Tyr	Thr	Pro	Met	Gly	Thr	Phe	Val	Ala	Met	Ser	Leu	Met	Asn	Tyr	195	200	205
Tyr	Ala	Leu	Phe	Ala	Leu	Ile	Met	Val	Phe	Val	Val	Ala	Trp	Phe	Ser	210	215	220
Phe	Asp	Ile	Gly	Ser	Met	Ala	Arg	Phe	Glu	Gln	Ala	Ala	Leu	Asn	Glu	225	230	235
Ala	Gln	Asp	Glu	Thr	Ala	Ala	Ser	Asp	Ala	Thr	Lys	Gly	Arg	Val	Tyr	245	250	255
Ala	Leu	Ile	Ile	Pro	Val	Leu	Ala	Leu	Ile	Ala	Ser	Thr	Val	Ser	Ala	260	265	270
Met	Ile	Tyr	Thr	Gly	Ala	Gln	Ala	Ser	Glu	Thr	Phe	Ser	Ile	Leu	Gly	275	280	285
Ala	Phe	Glu	Asn	Thr	Asp	Val	Asn	Thr	Ser	Leu	Val	Phe	Gly	Gly	Thr	290	295	300
Cys	Gly	Val	Leu	Ala	Val	Val	Leu	Cys	Thr	Phe	Gly	Thr	Ile	Lys	Thr	305	310	315

Ala Asp Tyr Pro Lys Ala Val Trp Gln Gly Ala Lys Ser Met Phe Gly
 325 330 335
 Ala Ile Ala Ile Leu Ile Leu Ala Trp Leu Ile Ser Thr Val Val Gly
 340 345 350
 Glu Met His Thr Gly Asp Tyr Leu Ser Thr Leu Val Ala Gly Asn Ile
 355 360 365
 His Pro Gly Phe Leu Pro Val Ile Leu Phe Leu Leu Ala Ser Val Met
 370 375 380
 Ala Phe Ala Thr Gly Thr Ser Trp Gly Thr Phe Gly Ile Met Leu Pro
 385 390 395 400
 Ile Ala Ala Ala Met Ala Val Lys Val Glu Pro Ala Leu Ile Ile Pro
 405 410 415
 Cys Met Ser Ala Val Met Ala Gly Ala Val Cys Gly Asp His Cys Ser
 420 425 430
 Pro Ile Ser Asp Thr Thr Ile Leu Ser Ser Thr Gly Ala Arg Cys Asn
 435 440 445
 His Ile Asp His Val Thr Ser Gln Leu Pro Tyr Ala Leu Thr Val Ala
 450 455 460
 Ala Ala Ala Ala Ser Gly Tyr Leu Ala Leu Gly Leu Thr Lys Ser Ala
 465 470 475 480
 Leu Leu Gly Phe Gly Thr Thr Gly Ile Val Leu Ala Val Leu Ile Phe
 485 490 495
 Leu Leu Lys Asp Lys Lys Arg Ala Asp Val
 500 505

<210> 697
 <211> 247
 <212> DNA
 <213> Neisseria meningitidis

<220>
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 <222> (20)..(20)
 <223> N= Unknown

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atcaacgcaa cggggtggtt ttggagtggg atgaagatgg ttctaaaaag agcgaagtgt	180
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accctga	247

<210> 698
 <211> 82
 <212> PRT

<213> Neisseria meningitidis

<220>

<221> misc_feature

<222> (7)..(7)

<223> Xaa= any amino acid

<220>

<221> misc_feature

<222> (60)..(60)

<223> Xaa= any amino acid

<400> 698

Lys Gln Trp Tyr Ala Asp Xaa Ser Ile Lys Thr Glu Met Val Met Val
1 5 10 15

Asn Asp Glu Pro Ala Lys Ile Leu Thr Trp Asp Glu Ser Gly Arg Leu
20 25 30

Leu Ser Glu Leu Ser Ile Arg His His Gln Arg Asn Gly Val Val Leu
35 40 45

Glu Trp Tyr Glu Asp Gly Ser Lys Lys Ser Glu Xaa Val Tyr Gln Asp
50 55 60

Asp Lys Leu Val Arg Lys Thr Gln Trp Asp Lys Asp Gly Tyr Leu Ile
65 70 75 80

Glu Pro

<210> 699

<211> 738

<212> DNA

<213> Neisseria meningitidis

<400> 699

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tctgccgctt	atatcaggca	atatagtgtg	gtggcgggta	ttgcgcacgc	gcaggatttt	180
tattatccgt	cgatgaagaa	atattctgaa	ccttatatcg	ttgcttcaac	gcaaatcaaa	240
tcttttgtgc	ctaccctgca	aaacggtatg	ttgattttgt	ggcattttta	tggtcagaaa	300
aaaatggcgg	ggggcttcag	caagggttaag	ccggacgggg	agtgggtcaa	ctggtatccg	360
aacggtaaaa	aatctgccgt	tatgccttat	aaaaatggct	tgagtgaggg	tacgggatac	420
cgctattacc	gtaacggcgg	caaggaaagc	gaaatccagt	ttaagcaaaa	taaggcaaac	480
ggcgtatgga	agcaatggta	tgccgacggc	agtatcaaga	cggaaatggg	tatgggtcaac	540
gatgagcctg	ccaaaattct	gacttgggat	gaaagcggcc	gattactctc	ggaactgtct	600
atccgccacc	atcaacgcaa	cggggtgggt	ttggagtggg	atgaagatgg	ttctaaaaag	660
agcgaagctg	tttatcagga	tgacaagttg	gtcaggaaaa	cccagtggga	taaggatggg	720
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<210> 700

<211> 245

<212> PRT

<213> Neisseria meningitidis

<400> 700

Met Lys Lys Leu Ser Arg Ile Val Phe Ser Thr Val Leu Leu Gly Phe
1 5 10 15

Ser Ala Ala Leu Pro Ala Gln Thr Tyr Ser Val Tyr Phe Asn Gln Asn
20 25 30

Gly Lys Leu Thr Ala Thr Met Ser Ala Ala Tyr Ile Arg Gln Tyr
35 40 45

Ser Val Val Ala Gly Ile Ala His Ala Gln Asp Phe Tyr Tyr Pro Ser
50 55 60

Met Lys Lys Tyr Ser Glu Pro Tyr Ile Val Ala Ser Thr Gln Ile Lys
65 70 75 80

Ser Phe Val Pro Thr Leu Gln Asn Gly Met Leu Ile Leu Trp His Phe
85 90 95

Asn Gly Gln Lys Lys Met Ala Gly Gly Phe Ser Lys Gly Lys Pro Asp
100 105 110

Gly Glu Trp Val Asn Trp Tyr Pro Asn Gly Lys Lys Ser Ala Val Met
115 120 125

Pro Tyr Lys Asn Gly Leu Ser Glu Gly Thr Gly Tyr Arg Tyr Tyr Arg
130 135 140

Asn Gly Gly Lys Glu Ser Glu Ile Gln Phe Lys Gln Asn Lys Ala Asn
145 150 155 160

Gly Val Trp Lys Gln Trp Tyr Ala Asp Gly Ser Ile Lys Thr Glu Met
165 170 175

Val Met Val Asn Asp Glu Pro Ala Lys Ile Leu Thr Trp Asp Glu Ser
180 185 190

Gly Arg Leu Leu Ser Glu Leu Ser Ile Arg His His Gln Arg Asn Gly
195 200 205

Val Val Leu Glu Trp Tyr Glu Asp Gly Ser Lys Lys Ser Glu Ala Val
210 215 220

Tyr Gln Asp Asp Lys Leu Val Arg Lys Thr Gln Trp Asp Lys Asp Gly
225 230 235 240

Tyr Leu Ile Glu Pro
245

<210> 701

<211> 738

<212> DNA

<213> Neisseria meningitidis

<220>

<221> misc_feature

<222> (71)..(71)
<223> N= Unknown

<220>
<221> misc_feature
<222> (115)..(115)
<223> N= Unknown

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<221> misc_feature
<222> (129)..(129)
<223> N= Unknown

<220>
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<222> (177)..(177)
<223> N= Unknown

<220>
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<222> (183)..(183)
<223> N= Unknown

<220>
<221> misc_feature
<222> (291)..(291)
<223> N= Unknown

<220>
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<222> (309)..(309)
<223> N= Unknown

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<223> N= Unknown

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<223> N= Unknown

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<222> (662)..(662)
<223> N= Unknown

<220>
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<222> (714)..(714)
<223> N= Unknown

<400> 701
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tctgccgcnt	atatcaggca	atatagtgtg	gcggagggtg	ttgcgcacgc	gcagganttt	180
tantatccgt	cgatgaagaa	atattccgaa	ccttatatcg	ttgcttcaac	gcaaatcaaa	240
tcttttgtgc	ctaccctgca	aaacgggtatg	ttgattttgt	ggcattttta	nggtcagaaa	300
aaaatggcng	ggggcttcag	caagggtaag	ccggacgggg	agtgggtcaa	ctggtatccg	360
aacggtaaaa	aatctgccgt	tatgccttat	aaaaatggtt	tgagtgaagg	tacggggttn	420
cgctattacc	gtaacggcgg	caaggaaagc	gaaatccagt	ttaaacagaa	taaggcaaac	480
ggcgtatgga	agcaatggta	tgccgacggc	aatatcaaaa	cggaaatggt	tatggtcaat	540
gatgagcctg	ccaaaattct	gacatgggat	gaaagcggtc	gattactctc	ggaactgtct	600
atccatcatc	atnaacgtaa	tggagtagtc	ttagagtggg	atgaagatgg	ttctaaaaag	660
antgaagctg	tttatcagga	tgataagttg	gtcaggaaaa	cccagtggga	taangatggt	720
tatttaatcg	aaccctga					738

<210> 702
 <211> 245
 <212> PRT
 <213> *Neisseria meningitidis*

<220>
 <221> misc_feature
 <222> (24)..(24)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (39)..(39)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (59)..(59)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (61)..(61)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (97)..(97)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (140)..(140)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (205)..(205)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (221)..(221)
 <223> Xaa= any amino acid

<220>

<221> misc_feature

<222> (238)..(238)

<223> Xaa= any amino acid

<400> 702

Met Lys Lys Leu Ser Arg Ile Val Phe Ser Thr Val Leu Leu Gly Phe
1 5 10 15

Ser Ala Ala Leu Pro Ala Gln Xaa Tyr Ser Val Tyr Phe Asn Gln Asn
20 25 30

Gly Lys Leu Thr Ala Thr Xaa Ser Ser Ala Ala Tyr Ile Arg Gln Tyr
35 40 45

Ser Val Ala Glu Gly Ile Ala His Ala Gln Xaa Phe Xaa Tyr Pro Ser
50 55 60

Met Lys Lys Tyr Ser Glu Pro Tyr Ile Val Ala Ser Thr Gln Ile Lys
65 70 75 80

Ser Phe Val Pro Thr Leu Gln Asn Gly Met Leu Ile Leu Trp His Phe
85 90 95

Xaa Gly Gln Lys Lys Met Ala Gly Gly Phe Ser Lys Gly Lys Pro Asp
100 105 110

Gly Glu Trp Val Asn Trp Tyr Pro Asn Gly Lys Lys Ser Ala Val Met
115 120 125

Pro Tyr Lys Asn Gly Leu Ser Glu Gly Thr Gly Xaa Arg Tyr Tyr Arg
130 135 140

Asn Gly Gly Lys Glu Ser Glu Ile Gln Phe Lys Gln Asn Lys Ala Asn
145 150 155 160

Gly Val Trp Lys Gln Trp Tyr Ala Asp Gly Asn Ile Lys Thr Glu Met
165 170 175

Val Met Val Asn Asp Glu Pro Ala Lys Ile Leu Thr Trp Asp Glu Ser
180 185 190

Gly Arg Leu Leu Ser Glu Leu Ser Ile His His His Xaa Arg Asn Gly
195 200 205

Val Val Leu Glu Trp Tyr Glu Asp Gly Ser Lys Lys Xaa Glu Ala Val
210 215 220

Tyr Gln Asp Asp Lys Leu Val Arg Lys Thr Gln Trp Asp Xaa Asp Gly
225 230 235 240

Tyr Leu Ile Glu Pro
245

<210> 703

<211> 738

<212> DNA
<213> Neisseria gonorrhoeae

<400> 703
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ccggcgcaga cctattctgt ttatttttaaat cagaacggga aactgacggc gacgatgtct 120
tctgccgctt atatcaggca atatagtgtg gcgccgggta tcgcacacgc gcaggatttt 180
tattatccgt cgatgaagaa atattccgaa ccttatatcg ttgcttcaac gcaaatcaaaa 240
tcttttgtgc ctaccctgca aaacgggatg ttgattttgt ggcattttta tggtcagaaa 300
aaaatggcgg ggggcttcag caagggttaag ccggacgggg aatgggtcaa ctggatatccg 360
aacggtaaaaa aatctgcggg tatgccttat aaaaatggct tgagtggaggg tacgggatac 420
cgttattacc gtaacggcgg caaggaaaagc gaaatccagt ttaagcaaaa taaggcgaac 480
ggcgtatgga agcaatggta tgccgatgga agtatcaaga cggaaatggg tatgggtcaac 540
gatgagcctg ccaaaattct gacttgggat gaaagcggcc gattactttc ggaactgtct 600
atccgccacc ataaacgcaa cggggtggtt ttggagtggg atgaagatgg ttctaaaaag 660
agcgaggctg tttatcagga tgacaagttg gtcaggaaaa cccaatggga taaggatggt 720
tatttaatcg aaccctga 738

<210> 704
<211> 245
<212> PRT
<213> Neisseria gonorrhoeae

<400> 704
Met Lys Lys Leu Ser Arg Ile Val Phe Ser Ile Val Leu Leu Gly Phe
1 5 10 15
Ser Ala Ala Leu Pro Ala Gln Thr Tyr Ser Val Tyr Phe Asn Gln Asn
20 25 30
Gly Lys Leu Thr Ala Thr Met Ser Ser Ala Ala Tyr Ile Arg Gln Tyr
35 40 45
Ser Val Ala Ala Gly Ile Ala His Ala Gln Asp Phe Tyr Tyr Pro Ser
50 55 60
Met Lys Lys Tyr Ser Glu Pro Tyr Ile Val Ala Ser Thr Gln Ile Lys
65 70 75 80
Ser Phe Val Pro Thr Leu Gln Asn Gly Met Leu Ile Leu Trp His Phe
85 90 95
Asn Gly Gln Lys Lys Met Ala Gly Gly Phe Ser Lys Gly Lys Pro Asp
100 105 110
Gly Glu Trp Val Asn Trp Tyr Pro Asn Gly Lys Lys Ser Ala Val Met
115 120 125
Pro Tyr Lys Asn Gly Leu Ser Glu Gly Thr Gly Tyr Arg Tyr Tyr Arg
130 135 140
Asn Gly Gly Lys Glu Ser Glu Ile Gln Phe Lys Gln Asn Lys Ala Asn
145 150 155 160
Gly Val Trp Lys Gln Trp Tyr Ala Asp Gly Ser Ile Lys Thr Glu Met
165 170 175

Val Met Val Asn Asp Glu Pro Ala Lys Ile Leu Thr Trp Asp Glu Ser
180 185 190

Gly Arg Leu Leu Ser Glu Leu Ser Ile Arg His His Lys Arg Asn Gly
195 200 205

Val Val Leu Glu Trp Tyr Glu Asp Gly Ser Lys Lys Ser Glu Ala Val
210 215 220

Tyr Gln Asp Asp Lys Leu Val Arg Lys Thr Gln Trp Asp Lys Asp Gly
225 230 235 240

Tyr Leu Ile Glu Pro
245

<210> 705
<211> 517
<212> DNA
<213> Neisseria meningitidis

<400> 705
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gctctgtacg gcgcattgtc cgtattgctg tgggggttctg gctacacggg aacgcackag 120
ctgtccggtt tctattggca cgcgcattgag atgatttggg gttatgccgg actggctcgtc 180
atcgcttcc tgctgaccgc cgtcgccact tggacggggc agccgcccac gcggggcggc 240
gtatctggtc ggcttgacta tcttttggtt ggctgcgcg attgccgct ttatccccggg 300
ttgggggtgc tcggcaagcg gcatactcgg tacgctgttt ttctggtacg gcgcggtgtg 360
catggctttg cccgttatcc gttcgcagaa tcaacgcaac tatgttgccg tggtcgcgct 420
gttcgtcttg ggcggcacgc atgcggcggt ccacgtccag ctgcacaacg gcaacctagg 480
cggactcttg agcgattgc agtcgggctt ggtgatg 517

<210> 706
<211> 172
<212> PRT
<213> Neisseria meningitidis

<220>
<221> misc_feature
<222> (40)..(40)
<223> Xaa= any amino acid

<400> 706
Met Lys Phe Thr Lys His Pro Val Trp Ala Met Ala Phe Arg Pro Phe
1 5 10 15

Tyr Ser Leu Ala Ala Leu Tyr Gly Ala Leu Ser Val Leu Leu Trp Gly
20 25 30

Phe Gly Tyr Thr Gly Thr His Xaa Leu Ser Gly Phe Tyr Trp His Ala
35 40 45

His Glu Met Ile Trp Gly Tyr Ala Gly Leu Val Val Ile Ala Phe Leu
50 55 60

Leu Thr Ala Val Ala Thr Trp Thr Gly Gln Pro Pro Thr Arg Gly Gly
65 70 75 80

Val Leu Val Gly Leu Thr Ile Phe Trp Leu Ala Ala Arg Ile Ala Ala
85 90 95

Phe Ile Pro Gly Trp Gly Ala Ser Ala Ser Gly Ile Leu Gly Thr Leu
100 105 110

Phe Phe Trp Tyr Gly Ala Val Cys Met Ala Leu Pro Val Ile Arg Ser
115 120 125

Gln Asn Gln Arg Asn Tyr Val Ala Val Phe Ala Leu Phe Val Leu Gly
130 135 140

Gly Thr His Ala Ala Phe His Val Gln Leu His Asn Gly Asn Leu Gly
145 150 155 160

Gly Leu Leu Ser Gly Leu Gln Ser Gly Leu Val Met
165 170

<210> 707
<211> 1155
<212> DNA
<213> Neisseria meningitidis

<400> 707
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gctctgtacg gcgcattgtc cgtattgctg tgggggtttcg gctacacggg aacgcacgag 120
ctgtcccggtt tctattggca cgcgcagtag atgatttggg gttatgccgg actggtcgtc 180
atcgcccttc tgctgaccgc cgtcgccact tggacggggc agccgcccac gcggggcggc 240
gttctgggtcg gcttgactat cttttggctg gctgcgcgga ttgccgcctt tatcccggtt 300
tgggggtgcgt cggcaagcgg catactcggg acgctgtttt tctggtacgg cgcggtgtgc 360
atggctttgc ccgttatccg ttcgcagaat caacgcaact atgttgccgt gttcgcgctg 420
ttcgtcttgg gcggcacgca tgcggcggtc cacgtccagc tgcacaacgg caacctaggc 480
ggactcttga gcggattgca gtcgggcttg gtgatgggtg cgggttttat cgggtctgatt 540
ggtacgcgga ttatttcgtt ttttacgtcc aaacgcttga atgtgccgca gattcccagt 600
ccgaaatggg tggcgcaggc ttcgctgtgg ctgcccattg tgactgcat gctgatggcg 660
cacgggtgtg tggcttggct gtctgccgtt tttgcctttg cggcaggtgt gatttttacc 720
gtgcagggtg accgctgggt gtataaacc gtgttgaaag agccgatgct gtggattctg 780
tttgccgggt atctgtttac cggattgggg ctgattgcgg tcggcgcgtc ttatttcaaa 840
cccgttttcc tcaatctggg tgtgcatctg atcgggggtc gcggtatcgg cgtgctgact 900
ttgggcatga tggcgcgtac cgcgcttggg catacgggca atccgattta tccgccgccc 960
aaagccgttc ccgttgctg ttggctgatg atggcggcaa ccgccgtccg tatgggtgcc 1020
gtattttctt ccggcactgc ctacacgcac agcatccgca cctcttcggt tttgtttgca 1080
ctcgcgcttt tgggtgatgc gtggaagtat attccttggc tgattcgtcc gcgttcggac 1140
ggcaggcccc gttga 1155

<210> 708
<211> 384
<212> PRT
<213> Neisseria meningitidis

<400> 708
Met Lys Phe Thr Lys His Pro Val Trp Ala Met Ala Phe Arg Pro Phe
1 5 10 15
Tyr Ser Leu Ala Ala Leu Tyr Gly Ala Leu Ser Val Leu Leu Trp Gly
20 25 30

Phe	Gly	Tyr	Thr	Gly	Thr	His	Glu	Leu	Ser	Gly	Phe	Tyr	Trp	His	Ala		
	35						40					45					
His	Glu	Met	Ile	Trp	Gly	Tyr	Ala	Gly	Leu	Val	Val	Ile	Ala	Phe	Leu		
	50					55					60						
Leu	Thr	Ala	Val	Ala	Thr	Trp	Thr	Gly	Gln	Pro	Pro	Thr	Arg	Gly	Gly		
65					70					75					80		
Val	Leu	Val	Gly	Leu	Thr	Ile	Phe	Trp	Leu	Ala	Ala	Arg	Ile	Ala	Ala		
				85					90					95			
Phe	Ile	Pro	Gly	Trp	Gly	Ala	Ser	Ala	Ser	Gly	Ile	Leu	Gly	Thr	Leu		
			100					105					110				
Phe	Phe	Trp	Tyr	Gly	Ala	Val	Cys	Met	Ala	Leu	Pro	Val	Ile	Arg	Ser		
		115					120					125					
Gln	Asn	Gln	Arg	Asn	Tyr	Val	Ala	Val	Phe	Ala	Leu	Phe	Val	Leu	Gly		
	130					135					140						
Gly	Thr	His	Ala	Ala	Phe	His	Val	Gln	Leu	His	Asn	Gly	Asn	Leu	Gly		
145					150					155					160		
Gly	Leu	Leu	Ser	Gly	Leu	Gln	Ser	Gly	Leu	Val	Met	Val	Ser	Gly	Phe		
				165					170					175			
Ile	Gly	Leu	Ile	Gly	Thr	Arg	Ile	Ile	Ser	Phe	Phe	Thr	Ser	Lys	Arg		
			180					185						190			
Leu	Asn	Val	Pro	Gln	Ile	Pro	Ser	Pro	Lys	Trp	Val	Ala	Gln	Ala	Ser		
	195						200					205					
Leu	Trp	Leu	Pro	Met	Leu	Thr	Ala	Met	Leu	Met	Ala	His	Gly	Val	Leu		
	210					215					220						
Ala	Trp	Leu	Ser	Ala	Val	Phe	Ala	Phe	Ala	Ala	Gly	Val	Ile	Phe	Thr		
225					230					235					240		
Val	Gln	Val	Tyr	Arg	Trp	Trp	Tyr	Lys	Pro	Val	Leu	Lys	Glu	Pro	Met		
				245					250					255			
Leu	Trp	Ile	Leu	Phe	Ala	Gly	Tyr	Leu	Phe	Thr	Gly	Leu	Gly	Leu	Ile		
		260						265					270				
Ala	Val	Gly	Ala	Ser	Tyr	Phe	Lys	Pro	Ala	Phe	Leu	Asn	Leu	Gly	Val		
		275					280					285					
His	Leu	Ile	Gly	Val	Gly	Gly	Ile	Gly	Val	Leu	Thr	Leu	Gly	Met	Met		
	290					295					300						
Ala	Arg	Thr	Ala	Leu	Gly	His	Thr	Gly	Asn	Pro	Ile	Tyr	Pro	Pro	Pro		
305					310					315					320		
Lys	Ala	Val	Pro	Val	Ala	Phe	Trp	Leu	Met	Met	Ala	Ala	Thr	Ala	Val		
				325					330					335			

Arg Met Val Ala Val Phe Ser Ser Gly Thr Ala Tyr Thr His Ser Ile
340 345 350

Arg Thr Ser Ser Val Leu Phe Ala Leu Ala Leu Leu Val Tyr Ala Trp
355 360 365

Lys Tyr Ile Pro Trp Leu Ile Arg Pro Arg Ser Asp Gly Arg Pro Gly
370 375 380

<210> 709
<211> 1155
<212> DNA
<213> Neisseria meningitidis

<400> 709
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ctgtccggtt tctattggca cgcgcattgag atgatttggg gttatgccgg actggtcgtc 180
atcgcttcc tgctgaccgc cgtcgccact tggacggggc agccgcccac gcggggcggc 240
gttctgggtc gcttgactat cttttggctg gctgcgcgga ttgccgcctt tatcccggtt 300
tgggggtgctg cggcaagcgg catactcggt acgctgtttt tctggtacgg cgcggtgtgc 360
atggctttgc ccgttatccg ttgcgagaat caacgcaatt atgttgccgt gttcgcgctg 420
ttcgtcttgg gcggtacgca cgcggcggtc cacgtccagc tgcacaacgg caacctaggc 480
ggactcttga gcggtatgca gtcgggcttg gtgatggtgt cgggttttat cggctctgatt 540
ggtacgcgga ttatttcgtt ttttacgtcc aaacggttga atgtgccgca gattcccagt 600
ccgaaatggg tggcgcaggc ttcgctgtgg ctgcccatgc tgaccgccat gctgatggcg 660
cacggcgtga tgccttggct gtcggcggct ttgcggtttg cggcagggtg gatttttacc 720
gtgcagggtg accgctggtg gtataagcct gtgttgaaag agccgatgct gtggattctg 780
tttgccggct atctgtttac cggattgggg ctgattgcgg tcggcgcgctc ttatttcaaa 840
cccgctttcc tcaatctggg tgtgcatctg atcggggctg gcggtatcgg cgtgctgact 900
ttgggcatga tggcgcgtac cgcgctcggt catacgggca atccgattta tccgccgccc 960
aaagccgttc ccgttgcgtt ttggctgatg atggcggcaa ccgccgtccg tatggttgcc 1020
gtattttctt ccggcactgc ctacacgcac agcatacgc cctcttcggt tttgtttgca 1080
ctcgcgcttt tgggtgatgc gtggaagtat attccttggc tgattcgtcc gcgttcggac 1140
ggcaggcccc gttga 1155

<210> 710
<211> 384
<212> PRT
<213> Neisseria meningitidis

<400> 710
Met Lys Phe Thr Lys His Pro Val Trp Ala Met Ala Phe Arg Pro Phe
1 5 10 15
Tyr Ser Leu Ala Ala Leu Tyr Gly Ala Leu Ser Val Leu Leu Trp Gly
20 25 30
Phe Gly Tyr Thr Gly Thr His Glu Leu Ser Gly Phe Tyr Trp His Ala
35 40 45
His Glu Met Ile Trp Gly Tyr Ala Gly Leu Val Val Ile Ala Phe Leu
50 55 60
Leu Thr Ala Val Ala Thr Trp Thr Gly Gln Pro Pro Thr Arg Gly Gly
65 70 75 80

Val	Leu	Val	Gly	Leu	Thr	Ile	Phe	Trp	Leu	Ala	Ala	Arg	Ile	Ala	Ala		85	90	95
Phe	Ile	Pro	Gly	Trp	Gly	Ala	Ser	Ala	Ser	Gly	Ile	Leu	Gly	Thr	Leu		100	105	110
Phe	Phe	Trp	Tyr	Gly	Ala	Val	Cys	Met	Ala	Leu	Pro	Val	Ile	Arg	Ser		115	120	125
Gln	Asn	Gln	Arg	Asn	Tyr	Val	Ala	Val	Phe	Ala	Leu	Phe	Val	Leu	Gly		130	135	140
Gly	Thr	His	Ala	Ala	Phe	His	Val	Gln	Leu	His	Asn	Gly	Asn	Leu	Gly		145	150	155
Gly	Leu	Leu	Ser	Gly	Leu	Gln	Ser	Gly	Leu	Val	Met	Val	Ser	Gly	Phe		165	170	175
Ile	Gly	Leu	Ile	Gly	Thr	Arg	Ile	Ile	Ser	Phe	Phe	Thr	Ser	Lys	Arg		180	185	190
Leu	Asn	Val	Pro	Gln	Ile	Pro	Ser	Pro	Lys	Trp	Val	Ala	Gln	Ala	Ser		195	200	205
Leu	Trp	Leu	Pro	Met	Leu	Thr	Ala	Met	Leu	Met	Ala	His	Gly	Val	Met		210	215	220
Pro	Trp	Leu	Ser	Ala	Ala	Phe	Ala	Phe	Ala	Ala	Gly	Val	Ile	Phe	Thr		225	230	235
Val	Gln	Val	Tyr	Arg	Trp	Trp	Tyr	Lys	Pro	Val	Leu	Lys	Glu	Pro	Met		245	250	255
Leu	Trp	Ile	Leu	Phe	Ala	Gly	Tyr	Leu	Phe	Thr	Gly	Leu	Gly	Leu	Ile		260	265	270
Ala	Val	Gly	Ala	Ser	Tyr	Phe	Lys	Pro	Ala	Phe	Leu	Asn	Leu	Gly	Val		275	280	285
His	Leu	Ile	Gly	Val	Gly	Gly	Ile	Gly	Val	Leu	Thr	Leu	Gly	Met	Met		290	295	300
Ala	Arg	Thr	Ala	Leu	Gly	His	Thr	Gly	Asn	Pro	Ile	Tyr	Pro	Pro	Pro		305	310	315
Lys	Ala	Val	Pro	Val	Ala	Phe	Trp	Leu	Met	Met	Ala	Ala	Thr	Ala	Val		325	330	335
Arg	Met	Val	Ala	Val	Phe	Ser	Ser	Gly	Thr	Ala	Tyr	Thr	His	Ser	Ile		340	345	350
Arg	Thr	Ser	Ser	Val	Leu	Phe	Ala	Leu	Ala	Leu	Leu	Val	Tyr	Ala	Trp		355	360	365
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<400> 712

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Tyr	Ser	Leu	Ala	Ala	Leu	Tyr	Gly	Ala	Leu	Ser	Val	Leu	Leu	Trp	Gly	20	25	30	
Phe	Gly	Tyr	Thr	Gly	Thr	His	Glu	Leu	Ser	Gly	Phe	Tyr	Trp	His	Ala	35	40	45	
His	Glu	Met	Ile	Trp	Gly	Tyr	Ala	Gly	Leu	Val	Val	Ile	Ala	Phe	Leu	50	55	60	
Leu	Thr	Ala	Val	Ala	Thr	Trp	Thr	Gly	Gln	Pro	Pro	Thr	Arg	Gly	Gly	65	70	75	80
Val	Leu	Val	Gly	Leu	Thr	Ala	Phe	Trp	Leu	Ala	Ala	Arg	Ile	Ala	Ala	85	90	95	
Phe	Ile	Pro	Gly	Trp	Gly	Ala	Ala	Ala	Ser	Gly	Ile	Leu	Gly	Thr	Leu	100	105	110	
Phe	Phe	Trp	Tyr	Gly	Ala	Val	Cys	Met	Ala	Leu	Pro	Val	Ile	Arg	Ser	115	120	125	
Gln	Asn	Arg	Arg	Asn	Tyr	Val	Ala	Val	Phe	Ala	Ile	Phe	Val	Leu	Gly	130	135	140	
Gly	Thr	His	Ala	Ala	Phe	His	Val	Gln	Leu	His	Asn	Gly	Asn	Leu	Gly	145	150	155	160
Gly	Leu	Leu	Ser	Gly	Leu	Gln	Ser	Gly	Leu	Val	Met	Val	Trp	Gly	Phe	165	170	175	
Ile	Gly	Leu	Ile	Gly	Met	Lys	Ile	Ile	Ser	Phe	Phe	Thr	Ser	Lys	Arg	180	185	190	
Leu	Lys	Leu	Pro	Gln	Ile	Pro	Ser	Pro	Lys	Trp	Val	Ala	His	Ala	Ser				

195

200

205

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210 215 220

Pro Trp Leu Ser Ala Ala Phe Pro Phe Ala Ala Gly Val Ile Phe Thr
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<213> Neisseria gonorrhoeae

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35 40 45

His	Glu	Met	Ile	Trp	Gly	Tyr	Ala	Gly	Leu	Val	Val	Ile	Ala	Phe	Leu	50	55	60	
Leu	Thr	Ala	Val	Ala	Thr	Trp	Thr	Gly	Gln	Pro	Pro	Thr	Arg	Gly	Gly	65	70	75	80
Val	Leu	Val	Gly	Leu	Thr	Ala	Phe	Trp	Leu	Ala	Ala	Arg	Ile	Ala	Ala	85	90	95	
Phe	Ile	Pro	Gly	Trp	Gly	Ala	Ala	Ala	Ser	Gly	Ile	Leu	Gly	Thr	Leu	100	105	110	
Phe	Phe	Trp	Tyr	Gly	Ala	Val	Cys	Met	Ala	Leu	Pro	Val	Ile	Arg	Ser	115	120	125	
Gln	Asn	Arg	Arg	Asn	Tyr	Val	Ala	Val	Phe	Ala	Ile	Phe	Val	Leu	Gly	130	135	140	
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Gly	Leu	Leu	Ser	Gly	Leu	Gln	Ser	Gly	Leu	Val	Met	Val	Ser	Gly	Phe	165	170	175	
Ile	Gly	Leu	Ile	Gly	Met	Arg	Ile	Ile	Ser	Phe	Phe	Thr	Ser	Lys	Arg	180	185	190	
Leu	Asn	Val	Pro	Gln	Ile	Pro	Ser	Pro	Lys	Trp	Val	Ala	Gln	Ala	Ser	195	200	205	
Leu	Trp	Leu	Pro	Met	Leu	Thr	Ala	Ile	Leu	Met	Ala	His	Gly	Val	Met	210	215	220	
Pro	Trp	Leu	Ser	Ala	Ala	Phe	Ala	Phe	Ala	Ala	Gly	Val	Ile	Phe	Thr	225	230	235	240
Val	Gln	Val	Tyr	Arg	Trp	Trp	Tyr	Lys	Pro	Val	Leu	Lys	Glu	Pro	Met	245	250	255	
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Ala	Val	Gly	Ala	Ser	Tyr	Phe	Lys	Pro	Ala	Phe	Leu	Asn	Leu	Gly	Val	275	280	285	
His	Leu	Ile	Gly	Val	Gly	Gly	Ile	Gly	Val	Leu	Thr	Leu	Gly	Met	Met	290	295	300	
Ala	Arg	Thr	Ala	Leu	Gly	His	Thr	Gly	Asn	Ser	Ile	Tyr	Pro	Pro	Pro	305	310	315	320
Lys	Ala	Val	Pro	Val	Ala	Phe	Trp	Leu	Met	Met	Ala	Ala	Thr	Ala	Val	325	330	335	
Arg	Met	Val	Ala	Val	Phe	Ser	Ser	Gly	Thr	Ala	Tyr	Thr	His	Ser	Ile	340	345	350	

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 aagaccyamg ctgctgatrc tgtkgctttc gtgataggsa ggtttgytgg kmksasyttg 240
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 ggcgtggaag ctgccgtttc cctgatgttt tgtttgggtt tctttgtagt tgttgtttat 480
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 <213> Neisseria meningitidis

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 35 40 45
 Gly Xaa Asp Val Glu Thr Asp Thr Gly Asp Asp Thr Lys Thr Xaa Ala
 50 55 60
 Ala Asp Xaa Val Ala Phe Val Ile Gly Arg Phe Xaa Gly Xaa Xaa Leu
 65 70 75 80
 Tyr Xaa Xaa Ala Xaa Xaa Xaa Xaa Ala Xaa Xaa Trp Xaa Xaa Xaa Xaa
 85 90 95
 Ser Arg Gly Phe Xaa Xaa His Arg Met Asn Leu Met Phe Asn Val Ser
 100 105 110
 Val Gly Asp Ala Arg Ala Asp Ile Gly Phe Glu Phe Ile Val Glu Phe
 115 120 125
 Glu Ile Val Asn Gly Gly Gln Ala Glu Arg Arg Asn Gly Val Glu Ala
 130 135 140
 Ala Val Ser Leu Met Phe Cys Leu Gly Phe Phe Val Val Val Val Tyr
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35					40					45						
Gln	Leu	Asn	Arg	His	Ser	His	Gly	Ser	Gly	Asn	Leu	Gly	Arg	Gly	Val	
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Trp	Ala	Thr	Val	Leu	Ser	Asp	Lys	Phe	Pro	Cys	Gly	Gln	Val	Arg	Ile	
65					70					75					80	
Pro	Ala	Cys	Ala	Gly	Met	Thr	Asn	Phe	Glu	Ile	Ala	Val	Leu	Ser	Gly	
85					90					95						
Met	Thr	Val	Arg	Val	Phe	Tyr	Cys	Ala	Arg	Pro	Ala	Pro	Val	Asn	Gly	
100					105					110						
Gly	Arg	Leu	Lys	Met	Pro	Ser	Glu	Gly	Ser	Asp	Gly	Ile	Gly	Ile	Gly	
115					120					125						
Glu	Ser	Glu	Ala	Val	Ala	His	Ala	Gln	Arg	Gly	Phe	Val	Gly	Phe	Glu	
130					135					140						
Ala	Gly	Val	Phe	Gln	Ala	Ser	Pro	Val	Val	Val	Ala	Val	Ala	Gly	Val	
145					150					155					160	
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165					170					175						
Glu	Ala	Gln	Ala	Ala	Ala	Ala	Val	Ala	Phe	Leu	Ile	Gly	Val	Phe	Leu	
180					185					190						
Arg	Met	Ser	Val	Arg	Ile	Asn	Arg	Asn	Cys	Cys	Val	Ser	Ile	Thr	Arg	
195					200					205						
Val	Gly	Gly	Lys	Ser	Thr	Cys	Tyr	Phe	Phe	Ser	Arg	Ile	Asp	Ala	Val	
210					215					220						
Ser	Asp	Val	Ser	Val	Gly	Asp	Ala	Arg	Thr	Asp	Ile	Gly	Phe	Glu	Phe	
225					230					235					240	
Val	Val	Glu	Phe	Glu	Ile	Val	Asn	Gly	Gly	Gln	Ala	Glu	Arg	Arg	Asn	
245					250					255						
Gly	Val	Glu	Cys	Ala	Val	Phe	Leu	Met	Phe	Arg	Leu	Leu	Val	Phe	Tyr	
260					265					270						
Val	Lys	Leu	Val	Ala	Ala	Lys	Ser	Phe	Ile	Ile	Leu	Ser	Phe	Gln	Leu	
275					280					285						
Phe	Tyr	Val	His	Gly	Ile	Phe	Ile	Val	Val	Pro	Phe	Pro	Val	Thr	Gly	
290					295					300						
Ile	Ile	Arg	Gly	Asp	Ala	Pro	Ala	Ala	Glu	Val	Val	Ala	Asp	Arg	His	
305					310					315					320	

Pro Gly Val Asp Gly Met Arg Thr Asp Val Ser Glu Ile Ile Ala Tyr
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Gly Asn Ala Phe Gly Gly Val Gly
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<213> *Neisseria meningitidis*

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Asp Leu Thr	Leu Val Thr	Gly Gly Val Ile Ser Gly	Met Gly Tyr Thr
35		40	45
Asn Pro His	Ile Met Phe	Ala Val Gly Met Leu Gly	Val Leu Val Gly
50		55	60
Asp Gly Ile	Met Phe Ala	Ala Gly Arg Ile Trp Gly	Gln Xaa Xaa Leu
65	70	75	80
Xaa Phe Xaa	Pro Ile Ala	Xaa Ile Met Thr Pro	Xaa Arg Tyr Glu Gln
	85	90	95
Val Gln Glu	Lys Phe Asp	Lys Tyr Gly Asn Trp	Val Leu Phe Val Ala
100		105	110
Arg Phe Leu	Pro Gly Leu	Arg Thr Ala Val Phe	Val Thr Ala Gly Ile
115		120	125
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Gly Thr Thr	Thr Thr Thr	Thr Thr Thr	Gly Thr Ala	Thr Thr Gly	Gly
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65	70	75		80	
Cys Gly Thr	Gly Cys Cys	Gly Ala Thr	Thr Cys Cys	Cys Gly Ala	Gly
	85	90		95	
Gly Ala Thr	Thr Thr Gly	Ala Cys Cys	Thr Thr Gly	Gly Thr Ala	Ala
100		105		110	

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	130					135					140					
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145					150					155					160	
Thr	Thr	Gly	Cys	Ala	Gly	Thr	Cys	Gly	Gly	Thr	Ala	Thr	Gly	Cys	Thr	
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Cys	Gly	Gly	Cys	Gly	Thr	Ala	Thr	Thr	Gly	Gly	Thr	Cys	Gly	Gly	Gly	
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	195						200					205				
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	210					215					220					
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Ala	Gly	Gly	Thr	Thr	Cys	Ala	Ala	Ala	Cys	Cys	Thr	Ala	Thr	Thr	Gly	
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			260					265					270			
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Ala	Cys	Ala	Ala	Ala	Thr	Ala	Cys	Gly	Gly	Thr	Ala	Ala	Cys	Thr	Gly	
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385					390					395					400	
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				405					410					415		

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 450 455 460
 Gly Gly Gly Cys Gly Ala Ala Thr Ala Cys Gly Gly Thr Gly Cys Gly
 465 470 475 480
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 485 490 495
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 500 505 510
 Cys Ala Gly Cys Cys Thr Gly Cys Ala Ala Thr Cys Gly Gly Gly Thr
 515 520 525
 Ala Thr Thr Thr Thr Thr Gly Thr Thr Ala Thr Cys Thr Thr Gly Gly
 530 535 540
 Gly Thr Ala Thr Ala Gly Gly Thr Gly Cys Gly Ala Cys Cys Gly Thr
 545 550 555 560
 Thr Gly Thr Cys Gly Cys Thr Thr Gly Gly Ala Thr Thr Thr Gly Gly
 565 570 575
 Thr Gly Gly Ala Ala Ala Ala Ala Ala Cys Gly Cys Cys Ala Ala Cys
 580 585 590
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 595 600 605
 Cys Ala Gly Cys Ala Ala Ala Thr Thr Gly Ala Ala Ala Gly Ala Ala
 610 615 620
 Ala Ala Gly Cys Gly Gly Gly Cys Gly Cys Ala Ala Cys Gly Cys Ala
 625 630 635 640
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<400> 722

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20           25           30

Asp Leu Thr Leu Val Thr Gly Gly Val Ile Ser Gly Met Gly Tyr Thr
35           40           45

Asn Pro His Ile Met Phe Ala Val Gly Met Leu Gly Val Leu Val Gly
50           55           60

Asp Gly Ile Met Phe Ala Ala Gly Arg Ile Trp Gly Gln Lys Ile Leu
65           70           75           80

Arg Phe Lys Pro Ile Ala Arg Ile Met Thr Pro Lys Arg Tyr Glu Gln
85           90           95

Val Gln Glu Lys Phe Asp Lys Tyr Gly Asn Trp Val Leu Phe Val Ala
100          105          110

Arg Phe Leu Pro Gly Leu Arg Thr Ala Val Phe Val Thr Ala Gly Ile
115          120          125

Ser Arg Lys Val Ser Tyr Leu Arg Phe Ile Ile Met Asp Gly Leu Ala
130          135          140

Ala Leu Ile Ser Val Pro Ile Trp Ile Tyr Leu Gly Glu Tyr Gly Ala
145          150          155          160

His Asn Ile Asp Trp Leu Met Ala Lys Met His Ser Leu Gln Ser Gly
165          170          175

Ile Phe Val Ile Leu Gly Ile Gly Ala Thr Val Val Ala Trp Ile Trp
180          185          190

Trp Lys Lys Arg Gln Arg Ile Gln Phe Tyr Arg Ser Lys Leu Lys Glu
195          200          205

Lys Arg Ala Gln Arg Lys Ala Ala Lys Ala Ala Lys Lys Ala Ala Gln
210          215          220

Ser Lys Gln
225

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<210> 723

<211> 684

<212> DNA

<213> *Neisseria meningitidis*

<400> 723

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gtgatttcgg gtatgggtta taccaatccg catattatgt ttgcagtcgg tatgctcggc      180
gtattggtcg gggacggcat catgttcgcc gccggacgca tctgggggca gaaaatcctc      240

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aagttcaaac	cgattgcgcg	catcatgacg	ccgaaacggt	acgcacaggt	tcaggaaaaa	300
ttcgacaaat	acggcaactg	ggtgttattt	gtcgctcggt	tcctgcccgg	tttgccgact	360
gccgttttcg	ttaccgccgg	catcagccgc	aaagtatcgt	atctgcgctt	tctgattatg	420
gacgggcttg	ccgcgctgat	ttccgtgccc	gtttggattt	acttgggcga	gtacggcgcg	480
cacaacatcg	attggctgat	ggcgaaaatg	cacagcctgc	aatccggcat	cttcacgcga	540
ttgggcgtgc	tggcggcggc	gctggcggtg	ttctgggtgg	gcaaacgccg	acattatcag	600
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aaagcggcac	agaagcagca	gtaa				684

<210> 724
 <211> 227
 <212> PRT
 <213> Neisseria meningitidis

<400> 724

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			20					25					30		
Asp	Leu	Thr	Leu	Val	Thr	Gly	Gly	Val	Ile	Ser	Gly	Met	Gly	Tyr	Thr
			35				40					45			
Asn	Pro	His	Ile	Met	Phe	Ala	Val	Gly	Met	Leu	Gly	Val	Leu	Val	Gly
			50			55					60				
Asp	Gly	Ile	Met	Phe	Ala	Ala	Gly	Arg	Ile	Trp	Gly	Gln	Lys	Ile	Leu
65					70					75					80
Lys	Phe	Lys	Pro	Ile	Ala	Arg	Ile	Met	Thr	Pro	Lys	Arg	Tyr	Ala	Gln
				85					90					95	
Val	Gln	Glu	Lys	Phe	Asp	Lys	Tyr	Gly	Asn	Trp	Val	Leu	Phe	Val	Ala
			100					105					110		
Arg	Phe	Leu	Pro	Gly	Leu	Arg	Thr	Ala	Val	Phe	Val	Thr	Ala	Gly	Ile
			115				120					125			
Ser	Arg	Lys	Val	Ser	Tyr	Leu	Arg	Phe	Leu	Ile	Met	Asp	Gly	Leu	Ala
			130				135				140				
Ala	Leu	Ile	Ser	Val	Pro	Val	Trp	Ile	Tyr	Leu	Gly	Glu	Tyr	Gly	Ala
145					150					155					160
His	Asn	Ile	Asp	Trp	Leu	Met	Ala	Lys	Met	His	Ser	Leu	Gln	Ser	Gly
				165					170					175	
Ile	Phe	Ile	Ala	Leu	Gly	Val	Leu	Ala	Ala	Ala	Leu	Ala	Trp	Phe	Trp
			180					185					190		
Trp	Arg	Lys	Arg	Arg	His	Tyr	Gln	Leu	Tyr	Arg	Ala	Gln	Leu	Ser	Glu
			195				200					205			
Lys	Arg	Ala	Lys	Arg	Lys	Ala	Glu	Lys	Ala	Ala	Lys	Lys	Ala	Ala	Gln
			210				215					220			

Lys Gln Gln
225

<210> 725
<211> 8
<212> DNA
<213> Neisseria gonorrhoeae

<220>
<221> misc_feature
<222> (1)..(8)
<223> N = Unknown

<400> 725
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8

<210> 726
<211> 122
<212> PRT
<213> Neisseria gonorrhoeae

<400> 726
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Val Phe Val Thr Ala Gly Ile Ser Arg Lys Val Ser Tyr Leu Arg Phe
20 25 30
Leu Ile Met Asp Gly Leu Ala Ala Leu Ile Ser Val Pro Val Trp Ile
35 40 45
Tyr Leu Gly Glu Tyr Gly Ala His Asn Ile Asp Trp Leu Met Ala Lys
50 55 60
Met His Ser Leu Gln Ser Gly Ile Phe Ile Ala Leu Gly Val Leu Ala
65 70 75 80
Ala Ala Leu Ala Trp Phe Trp Trp Arg Lys Arg Arg His Tyr Gln Leu
85 90 95
Tyr Arg Ala Gln Leu Ser Glu Lys Arg Ala Lys Arg Lys Ala Glu Lys
100 105 110
Ala Ala Lys Lys Ala Ala Gln Lys Gln Gln
115 120

<210> 727
<211> 684
<212> DNA
<213> Neisseria gonorrhoeae

<400> 727
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gtgatttcgg gtatgggta taccaatccg catattatgt ttgcggtcgg tatgctcggc 180
gtgttgccgg gcgacggcgt gatgtttgcc gccggacgca tctgggggca gaaaatcctc 240

aagttcaaac	cgattgcgcg	catcatgacg	ccgaaacggt	acgcgcaggt	tcaggaaaaa	300
ttcgacaaat	acggcaactg	ggttctgttt	gtcgcccggt	tcctgccggg	tttgccgact	360
gccgttttcg	ttaccgcggg	catcagccgc	aaagtatcgt	atctgcgctt	tctgattatg	420
gacgggctgg	ccgcgctgat	ttccgtgccc	gtttggattt	acttgggcga	gtacggcgcg	480
cacaacatcg	attggctgat	ggcgaaaatg	cacagcctgc	aatcgggcat	cttcacgcga	540
ttgggcgtgc	tggcgggcgg	gctggcggtg	ttctggtggc	gcaaacgccg	acattatcag	600
ctttaccgcg	cacaattgag	cgaaaaacgc	gccaaacgca	aggcggaaaa	ggcagcgaaa	660
aaagcggcac	agaagcagca	gtaa				684

<210> 728
 <211> 227
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 728

Met	Phe	Ala	Leu	Leu	Glu	Ala	Phe	Phe	Val	Glu	Tyr	Gly	Tyr	Ala	Ala
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Val	Phe	Phe	Val	Leu	Val	Ile	Cys	Gly	Phe	Gly	Val	Pro	Ile	Pro	Glu
			20					25					30		
Asp	Leu	Thr	Leu	Val	Thr	Gly	Gly	Val	Ile	Ser	Gly	Met	Gly	Tyr	Thr
		35					40					45			
Asn	Pro	His	Ile	Met	Phe	Ala	Val	Gly	Met	Leu	Gly	Val	Leu	Ala	Gly
	50					55					60				
Asp	Gly	Val	Met	Phe	Ala	Ala	Gly	Arg	Ile	Trp	Gly	Gln	Lys	Ile	Leu
65				70					75					80	
Lys	Phe	Lys	Pro	Ile	Ala	Arg	Ile	Met	Thr	Pro	Lys	Arg	Tyr	Ala	Gln
			85					90						95	
Val	Gln	Glu	Lys	Phe	Asp	Lys	Tyr	Gly	Asn	Trp	Val	Leu	Phe	Val	Ala
			100					105					110		
Arg	Phe	Leu	Pro	Gly	Leu	Arg	Thr	Ala	Val	Phe	Val	Thr	Ala	Gly	Ile
	115					120						125			
Ser	Arg	Lys	Val	Ser	Tyr	Leu	Arg	Phe	Leu	Ile	Met	Asp	Gly	Leu	Ala
	130					135					140				
Ala	Leu	Ile	Ser	Val	Pro	Val	Trp	Ile	Tyr	Leu	Gly	Glu	Tyr	Gly	Ala
145				150						155				160	
His	Asn	Ile	Asp	Trp	Leu	Met	Ala	Lys	Met	His	Ser	Leu	Gln	Ser	Gly
			165						170					175	
Ile	Phe	Ile	Ala	Leu	Gly	Val	Leu	Ala	Ala	Ala	Leu	Ala	Trp	Phe	Trp
		180					185						190		
Trp	Arg	Lys	Arg	Arg	His	Tyr	Gln	Leu	Tyr	Arg	Ala	Gln	Leu	Ser	Glu
	195					200					205				
Lys	Arg	Ala	Lys	Arg	Lys	Ala	Glu	Lys	Ala	Ala	Lys	Lys	Ala	Ala	Gln
	210					215					220				

Lys Gln Gln
225

<210> 729
<211> 441
<212> DNA
<213> *Neisseria meningitidis*

<400> 729
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gcgttcatga aaatccacaa cgacgaagcc aaacaagact ttttgctcgg cggaagcagc 180
cccgttgccg accgcgtcga agtgcatacc cacatcaacg acaacggcgt gatgcggatg 240
cgcgaagtcg aaggcggcgt gcctttggaa gcgaaatccg ttaccgaact caaaccggc 300
agctatcatg tgatgtttat gggtttgaaa aaacaattaa aagagggcga taaaattccc 360
gttaccctga aatttaaaaa cgccaaagcg caaaccgctc aactggaagt caaaatcgcg 420
ccgatgccgg caatgaacca c 441

<210> 730
<211> 147
<212> PRT
<213> *Neisseria meningitidis*

<400> 730
Met Lys Lys Leu Leu Ala Ala Val Met Met Ala Gly Leu Ala Gly Ala
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Val Ser Ala Ala Gly Val His Val Glu Asp Gly Trp Ala Arg Thr Thr
20 25 30
Val Glu Gly Met Lys Ile Gly Gly Ala Phe Met Lys Ile His Asn Asp
35 40 45
Glu Ala Lys Gln Asp Phe Leu Leu Gly Gly Ser Ser Pro Val Ala Asp
50 55 60
Arg Val Glu Val His Thr His Ile Asn Asp Asn Gly Val Met Arg Met
65 70 75 80
Arg Glu Val Glu Gly Gly Val Pro Leu Glu Ala Lys Ser Val Thr Glu
85 90 95
Leu Lys Pro Gly Ser Tyr His Val Met Phe Met Gly Leu Lys Lys Gln
100 105 110
Leu Lys Glu Gly Asp Lys Ile Pro Val Thr Leu Lys Phe Lys Asn Ala
115 120 125
Lys Ala Gln Thr Val Gln Leu Glu Val Lys Ile Ala Pro Met Pro Ala
130 135 140
Met Asn His
145

<210> 731
<211> 474

<212> DNA
<213> Neisseria meningitidis

<400> 731
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ggagtccacg ttgaggacgg ctgggcgcgc accaccgtcg aaggatgaa aataggcggc 120
gcgttcatga aaatccacaa cgacgaagcc aaacaagact ttttgctcgg cggaagcagc 180
cccgttgccg accgcgtcga agtgcatacc cacatcaacg acaacggcgt gatgcggatg 240
cgcgaagtcg aaggcggcgt gcctttggaa gcgaaatccg ttaccgaact caaaccggc 300
agctatcatg tgatgtttat gggtttgaaa aaacaattaa aagagggcga taaaattccc 360
gttaccctga aatttaaaaa cgccaaagcg caaacgcgcc aactggaagt caaaatcgcg 420
ccgatgccgg caatgaacca cggtcacac caccggcgaag cgcacagca ctaa 474

<210> 732
<211> 157
<212> PRT
<213> Neisseria meningitidis

<400> 732
Met Lys Lys Leu Leu Ala Ala Val Met Met Ala Gly Leu Ala Gly Ala
1 5 10 15
Val Ser Ala Ala Gly Val His Val Glu Asp Gly Trp Ala Arg Thr Thr
20 25 30
Val Glu Gly Met Lys Ile Gly Gly Ala Phe Met Lys Ile His Asn Asp
35 40 45
Glu Ala Lys Gln Asp Phe Leu Leu Gly Gly Ser Ser Pro Val Ala Asp
50 55 60
Arg Val Glu Val His Thr His Ile Asn Asp Asn Gly Val Met Arg Met
65 70 75 80
Arg Glu Val Glu Gly Gly Val Pro Leu Glu Ala Lys Ser Val Thr Glu
85 90 95
Leu Lys Pro Gly Ser Tyr His Val Met Phe Met Gly Leu Lys Lys Gln
100 105 110
Leu Lys Glu Gly Asp Lys Ile Pro Val Thr Leu Lys Phe Lys Asn Ala
115 120 125
Lys Ala Gln Thr Val Gln Leu Glu Val Lys Ile Ala Pro Met Pro Ala
130 135 140
Met Asn His Gly His His His Gly Glu Ala His Gln His
145 150 155

<210> 733
<211> 474
<212> DNA
<213> Neisseria meningitidis

<220>
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<222> (7)..(7)
<223> N= Unknown

<220>
<221> misc_feature
<222> (325)..(325)
<223> N= Unknown

<220>
<221> misc_feature
<222> (345)..(345)
<223> N= Unknown

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gcgttcacga aaatccacaa cgacgaagcc aaacaagact tttgctcgg cggaagcagc 180
cctgttgccg accgcgtcga agtgcatacc catatcaatg ataacgggtg gatgcggatg 240
cgcgaagtcg aaggcggcgt gcctttggag gcgaaatccg ttaccgaact caaaccggc 300
agctatcatg tcatgtttat gggntgaaa aaacaattaa aaganggcga caagattccc 360
gttaccctga aatttaaaaa cgccaaagca caaaccgtcc aactggaagt caaaaccgcg 420
ccgatgtcgg caatggacca cggtcatcac cacggcgaag cgcacagca ctaa 474

<210> 734
<211> 157
<212> PRT
<213> Neisseria meningitidis

<220>
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<222> (3)..(3)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (109)..(109)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (115)..(115)
<223> Xaa= any amino acid

<400> 734
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Val Ser Ala Ala Gly Ile His Val Glu Asp Gly Trp Ala Arg Thr Thr
20 25 30
Val Glu Gly Met Lys Met Gly Gly Ala Phe Met Lys Ile His Asn Asp
35 40 45
Glu Ala Lys Gln Asp Phe Leu Leu Gly Gly Ser Ser Pro Val Ala Asp
50 55 60

Arg Val Glu Val His Thr His Ile Asn Asp Asn Gly Val Met Arg Met
65 70 75 80

Arg Glu Val Glu Gly Gly Val Pro Leu Glu Ala Lys Ser Val Thr Glu
85 90 95

Leu Lys Pro Gly Ser Tyr His Val Met Phe Met Gly Xaa Lys Lys Gln
100 105 110

Leu Lys Xaa Gly Asp Lys Ile Pro Val Thr Leu Lys Phe Lys Asn Ala
115 120 125

Lys Ala Gln Thr Val Gln Leu Glu Val Lys Thr Ala Pro Met Ser Ala
130 135 140

Met Asp His Gly His His His Gly Glu Ala His Gln His
145 150 155

<210> 735
<211> 8
<212> DNA
<213> Neisseria gonorrhoeae

<220>
<221> misc_feature
<222> (1)..(8)
<223> N = Unknown

<400> 735
nnnnnnnn

8

<210> 736
<211> 86
<212> PRT
<213> Neisseria gonorrhoeae

<400> 736
Ile Asn Asp Asn Gly Val Met Arg Met Arg Glu Val Lys Gly Gly Val
1 5 10 15

Pro Leu Glu Ala Lys Ser Val Thr Glu Leu Lys Pro Gly Ser Tyr His
20 25 30

Val Met Phe Met Gly Leu Lys Lys Gln Leu Lys Glu Gly Asp Lys Ile
35 40 45

Pro Val Thr Leu Lys Phe Lys Asn Ala Lys Ala Gln Thr Val Gln Leu
50 55 60

Glu Val Lys Thr Ala Pro Met Ser Ala Met Asn His Gly His His His
65 70 75 80

Gly Glu Ala His Gln His
85

<210> 737

<211> 474
 <212> DNA
 <213> *Neisseria gonorrhoeae*

<400> 737
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 ggagtccatg tcgaggacgg ctggggcgcgc accactgtcg aaggatgaa aatgggcggc 120
 gcgttcatga aaatccacaa cgacgaagcc atacaagact ttgtgctcgg cggaagcatg 180
 cccgttgccg accgcgtcga agtgcataca cacatcaacg acaacggcgt gatgcgtatg 240
 cgcgaagtca aaggcggcgt gcctttggag gcgaaatccg ttaccgaact caaaccggc 300
 agctatcacg tgatgtttat gggtttgaaa aaacaactga aagagggcga caagattccc 360
 gttaccctga aatttaaaaa cgccaaagcg caaacctgcc aactggaagt caaaaccgcg 420
 ccgatgtcgg caatgaacca cggtcacac cacggcgaag cgcacagca ctaa 474

<210> 738
 <211> 157
 <212> PRT
 <213> *Neisseria gonorrhoeae*

<400> 738
 Met Lys Lys Leu Leu Ala Ala Val Met Met Ala Gly Leu Ala Gly Ala
 1 5 10 15
 Val Ser Ala Ala Gly Val His Val Glu Asp Gly Trp Ala Arg Thr Thr
 20 25 30
 Val Glu Gly Met Lys Met Gly Gly Ala Phe Met Lys Ile His Asn Asp
 35 40 45
 Glu Ala Ile Gln Asp Phe Val Leu Gly Gly Ser Met Pro Val Ala Asp
 50 55 60
 Arg Val Glu Val His Thr His Ile Asn Asp Asn Gly Val Met Arg Met
 65 70 75 80
 Arg Glu Val Lys Gly Gly Val Pro Leu Glu Ala Lys Ser Val Thr Glu
 85 90 95
 Leu Lys Pro Gly Ser Tyr His Val Met Phe Met Gly Leu Lys Lys Gln
 100 105 110
 Leu Lys Glu Gly Asp Lys Ile Pro Val Thr Leu Lys Phe Lys Asn Ala
 115 120 125
 Lys Ala Gln Thr Val Gln Leu Glu Val Lys Thr Ala Pro Met Ser Ala
 130 135 140
 Met Asn His Gly His His His Gly Glu Ala His Gln His
 145 150 155

<210> 739
 <211> 702
 <212> DNA
 <213> *Neisseria meningitidis*

<400> 739

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acgggcattt	tgggtctggct	gccgattgctg	gtaacggttt	gggtgggttc	ctatatcgtt	120
tccgcgtccg	atcagctcgt	caacctgctg	ccgaagcaat	ggcggccgca	atatgttttg	180
gggtttaata	tcccggggct	gggcgttatc	gttgccattg	ccgtattgtt	tgtaaccgga	240
ttgtttgccg	ccaacgtatt	gggtcggcag	atcctcgccg	cgtgggacag	cctgttgggg	300
cggattccgg	ttgtgaaatc	catctattcg	agtgtgaaaa	aagtatccga	atacgtgctg	360
tccgacagca	gccgttcggt	taaaacgccg	gtactcgtgc	cgtttcccca	gcccgggtatt	420
tggacgatyg	ctttcgtgtc	agggcagggtg	tcgaatgcgg	ttaaggccgc	attgccgaas	480
gacggcgatt	atctttccgt	gtatgttccg	accacgccga	atccgaccgg	cggttactat	540
attatggtaa	agaaaagcga	tgtgcgcgaa	ctcgatatga	gcgtggacga	ascattgaaa	600
tatgtgattt	cgctgggtat	ggtcacccct	gacgacctgc	ccgtcaaaac	attggcasga	660
cctatgccgt	ctgaaaaggc	ggatttgccc	gaacaacaat	aa		702

<210> 740
 <211> 233
 <212> PRT
 <213> Neisseria meningitidis

<220>
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 <222> (160)..(160)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (198)..(198)
 <223> Xaa= any amino acid

<220>
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 <222> (220)..(220)
 <223> Xaa= any amino acid

<400> 740
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 20 25 30
 Val Trp Val Val Ser Tyr Ile Val Ser Ala Ser Asp Gln Leu Val Asn
 35 40 45
 Leu Leu Pro Lys Gln Trp Arg Pro Gln Tyr Val Leu Gly Phe Asn Ile
 50 55 60
 Pro Gly Leu Gly Val Ile Val Ala Ile Ala Val Leu Phe Val Thr Gly
 65 70 75 80
 Leu Phe Ala Ala Asn Val Leu Gly Arg Gln Ile Leu Ala Ala Trp Asp
 85 90 95
 Ser Leu Leu Gly Arg Ile Pro Val Val Lys Ser Ile Tyr Ser Ser Val
 100 105 110
 Lys Lys Val Ser Glu Tyr Val Leu Ser Asp Ser Ser Arg Ser Phe Lys

115	120	125
Thr Pro Val Leu Val Pro Phe Pro Gln Pro Gly Ile Trp Thr Ile Ala		
130	135	140
Phe Val Ser Gly Gln Val Ser Asn Ala Val Lys Ala Ala Leu Pro Xaa		
145	150	155
Asp Gly Asp Tyr Leu Ser Val Tyr Val Pro Thr Thr Pro Asn Pro Thr		
	165	170
Gly Gly Tyr Tyr Ile Met Val Lys Lys Ser Asp Val Arg Glu Leu Asp		
	180	185
Met Ser Val Asp Glu Xaa Leu Lys Tyr Val Ile Ser Leu Gly Met Val		
	195	200
Ile Pro Asp Asp Leu Pro Val Lys Thr Leu Ala Xaa Pro Met Pro Ser		
	210	215
Glu Lys Ala Asp Leu Pro Glu Gln Gln		
225	230	

<210> 741
 <211> 702
 <212> DNA
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (11)..(11)
 <223> N= Unknown

<400> 741	
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tccgcgtccg atcagctcgt caacctgctg ccgaagcaat ggcggccgca atatgttttg	180
gggttttaata tcccgggggct gggcggttatc gttgccattg ccgtattgtt tgtaaccgga	240
ttgtttgccc ccaacgtatt gggtcggcag atcctcgccg cgtgggacag cctgttgggg	300
cggattccgg ttgtgaaatc catctattcg agtgtgaaaa aagtatccga atcgctgctg	360
tccgacagca gccgttcgtt taaaacgccg gtactcgtgc cgtttcccca gcccggtatt	420
tggacgattg ctttcgtgtc agggcagggtg tcgaatgcgg ttaaggccgc attgccgaag	480
gacggcgatt atctttccgt gtatgttccg accacgccga atccgaccgg cggttactat	540
attatggtaa agaaaagcga tgtgcgcgaa ctcgatatga gcgtggacga agcattgaaa	600
tatgtgattt cgctgggtat ggtcatccct gacgacctgc ccgtcaaac attggcagga	660
cctatgccgt ctgaaaaggc ggatttgccc gaacaacaat aa	702

<210> 742
 <211> 233
 <212> PRT
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (4)..(4)
 <223> Xaa= any amino acid

<400> 742

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Lys Tyr Leu Ile Thr Gly Ile Leu Val Trp Leu Pro Ile Ala Val Thr
20 25 30

Val Trp Val Val Ser Tyr Ile Val Ser Ala Ser Asp Gln Leu Val Asn
35 40 45

Leu Leu Pro Lys Gln Trp Arg Pro Gln Tyr Val Leu Gly Phe Asn Ile
50 55 60

Pro Gly Leu Gly Val Ile Val Ala Ile Ala Val Leu Phe Val Thr Gly
65 70 75 80

Leu Phe Ala Ala Asn Val Leu Gly Arg Gln Ile Leu Ala Ala Trp Asp
85 90 95

Ser Leu Leu Gly Arg Ile Pro Val Val Lys Ser Ile Tyr Ser Ser Val
100 105 110

Lys Lys Val Ser Glu Ser Leu Leu Ser Asp Ser Ser Arg Ser Phe Lys
115 120 125

Thr Pro Val Leu Val Pro Phe Pro Gln Pro Gly Ile Trp Thr Ile Ala
130 135 140

Phe Val Ser Gly Gln Val Ser Asn Ala Val Lys Ala Ala Leu Pro Lys
145 150 155 160

Asp Gly Asp Tyr Leu Ser Val Tyr Val Pro Thr Thr Pro Asn Pro Thr
165 170 175

Gly Gly Tyr Tyr Ile Met Val Lys Lys Ser Asp Val Arg Glu Leu Asp
180 185 190

Met Ser Val Asp Glu Ala Leu Lys Tyr Val Ile Ser Leu Gly Met Val
195 200 205

Ile Pro Asp Asp Leu Pro Val Lys Thr Leu Ala Gly Pro Met Pro Ser
210 215 220

Glu Lys Ala Asp Leu Pro Glu Gln Gln
225 230

<210> 743

<211> 702

<212> DNA

<213> *Neisseria meningitidis*

<220>

<221> misc_feature

<222> (351)..(351)

<223> N= Unknown

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<400> 743
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tccgcgtccg atcagctcgt caacctgctg ccgaagcaat ggccggccgca atatgttttg 180
gggtttaata tcccggggct gggcggttacc gttgccattg ccgtattgtt tgtaaccgga 240
ttatttgccg caaacgtatt gggccggcag attcttgccg cgtgggacag cttgttgagg 300
cggattccgg ttgtgaagtc catctattcg agtgtagaaa aagtatccga ntcgttgctg 360
tccgacagca gccgttcgtt taaaacacca gtactcgtgc cgtttcccca atcgggtatt 420
tggacaatcg cattcgtgtc cggtcagggt tcgaatgcgg ttaaggccgc attgccgaag 480
gacggcgatt atctttccgt gtatgttccg accacgcga atccgaccgg cggttactat 540
attatggtaa agaaaagcga tgtgcgcgaa ctcgatatga gcgtggacga agcgttgaaa 600
tatgtgattt cgctgggtat ggtcatccct gacgacctgc ccgtcaaaac attggcagga 660
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<210> 744
<211> 233
<212> PRT
<213> Neisseria meningitidis

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<220>
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<222> (117)..(117)
<223> Xaa= any amino acid

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1 5 10 15

Lys Tyr Leu Ile Thr Gly Ile Leu Val Trp Leu Pro Ile Ala Val Thr
20 25 30

Val Trp Val Val Ser Tyr Ile Val Ser Ala Ser Asp Gln Leu Val Asn
35 40 45

Leu Leu Pro Lys Gln Trp Arg Pro Gln Tyr Val Leu Gly Phe Asn Ile
50 55 60

Pro Gly Leu Gly Val Ile Val Ala Ile Ala Val Leu Phe Val Thr Gly
65 70 75 80

Leu Phe Ala Ala Asn Val Leu Gly Arg Gln Ile Leu Ala Ala Trp Asp
85 90 95

Ser Leu Leu Gly Arg Ile Pro Val Val Lys Ser Ile Tyr Ser Ser Val
100 105 110

Lys Lys Val Ser Xaa Ser Leu Leu Ser Asp Ser Ser Arg Ser Phe Lys
115 120 125

Thr Pro Val Leu Val Pro Phe Pro Gln Ser Gly Ile Trp Thr Ile Ala
130 135 140

Phe Val Ser Gly Gln Val Ser Asn Ala Val Lys Ala Ala Leu Pro Lys
145 150 155 160

Asp Gly Asp Tyr Leu Ser Val Tyr Val Pro Thr Thr Pro Asn Pro Thr

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	165		170		175
Gly Gly Tyr Tyr Ile Met Val Lys Lys Ser Asp Val Arg Glu Leu Asp					
	180		185		190
Met Ser Val Asp Glu Ala Leu Lys Tyr Val Ile Ser Leu Gly Met Val					
	195		200		205
Ile Pro Asp Asp Leu Pro Val Lys Thr Leu Ala Gly Pro Met Pro Ser					
	210		215		220
Glu Lys Ala Asp Leu Pro Glu Gln Gln					
225		230			

<210> 745
 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

<220>
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 <222> (1)..(8)
 <223> N = Unknown

<400> 745
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<210> 746
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 <212> PRT
 <213> Neisseria gonorrhoeae

<220>
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 <222> (100)..(100)
 <223> Xaa= any amino acid

<400> 746
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 1 5 10 15

Lys Tyr Leu Ile Thr Gly Ile Leu Val Trp Leu Pro Ile Ala Val Thr
 20 25 30

Val Trp Val Val Ser Tyr Ile Val Ser Ala Ser Asp Gln Leu Val Asn
 35 40 45

Leu Leu Pro Lys Gln Trp Arg Pro Gln Tyr Val Leu Gly Phe Asn Ile
 50 55 60

Pro Gly Leu Gly Val Ile Val Ala Ile Ala Val Leu Phe Val Thr Gly
 65 70 75 80

Leu Phe Ala Ala Asn Val Leu Gly Arg Gln Ile Leu Ala Ala Trp Asp
 85 90 95

Ser Leu Leu Xaa Arg Ile Pro Val Val Lys Ser Ile Tyr Ser Ser Val
100 105 110

Lys Lys Val Ser Glu Ser Leu Leu Ser Asp Ser Ser Arg Ser Phe Lys
115 120 125

Thr Pro Val Leu Val Pro Phe Pro Gln Ser Gly Ile Trp Thr Ile Ala
130 135 140

Phe Val Ser Gly Gln Val Ser Asn Ala Val Lys Ala Ala Leu Pro Gln
145 150 155 160

Asp Gly Asp Tyr Leu Ser Val Tyr Val Pro Thr Thr Pro Asn Pro Thr
165 170 175

Gly Gly Tyr Tyr Ile Met Val Lys Lys Ser Asp Val Arg Glu Leu Asp
180 185 190

Met Ser Val Asp Glu Ala Leu Lys Tyr Val Ile Ser Leu Gly Met Val
195 200 205

Ile Pro Asp Asp Leu Pro Val Lys Thr Leu Ala Gly Pro Met Pro Pro
210 215 220

Glu Lys Ala Glu Leu Pro Glu Gln Gln
225 230

<210> 747
<211> 702
<212> DNA
<213> Neisseria gonorrhoeae

<400> 747
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tccgcgtccg accagcttgt caacctgctg ccgaagcaat ggcgggccgca atatgttttg 180
gggtttaata tccccgggct cggcggtatt gttgccattg ccgtattgtt tgtaaccgga 240
ttatttgccg caaacgtgtt gggccggcag attcttgccg cgtgggacag cctggtgggg 300
cggattccgg ttgtcaaate catctattcg agtgtgaaaa aagtatccga atcgctgctg 360
tccgacagca gccgttcggt taaaacgccg gtactcgtgc cgtttcccca atcggttatt 420
tggaacaatc cattcgtgtc cggtcagggt tgaatgcgg ttaaggccgc attgccgcag 480
gatggcgatt atctttccgt gtatgtccc accacgccc acccgaccgg cggttactat 540
attatggtaa agaaaagcga tgtgcgcgaa ctcgatatga gcgtggacga agcgttgaaa 600
tatgtgattt cgctgggtat ggtcatccct gacgacctgc ccgtcaaaac attggcagga 660
cctatgccgc ctgaaaaggc ggagttgccc gaacaacaat aa 702

<210> 748
<211> 233
<212> PRT
<213> Neisseria gonorrhoeae

<400> 748
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Lys Tyr Leu Ile Thr Gly Ile Leu Val Trp Leu Pro Ile Ala Val Thr

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Val	Trp	Val	Val	Ser	Tyr	Ile	Val	Ser	Ala	Ser	Asp	Gln	Leu	Val	Asn				
35					40					45									
Leu	Leu	Pro	Lys	Gln	Trp	Arg	Pro	Gln	Tyr	Val	Leu	Gly	Phe	Asn	Ile				
50					55					60									
Pro	Gly	Leu	Gly	Val	Ile	Val	Ala	Ile	Ala	Val	Leu	Phe	Val	Thr	Gly				
65					70					75					80				
Leu	Phe	Ala	Ala	Asn	Val	Leu	Gly	Arg	Gln	Ile	Leu	Ala	Ala	Trp	Asp				
85					90					95									
Ser	Leu	Leu	Gly	Arg	Ile	Pro	Val	Val	Lys	Ser	Ile	Tyr	Ser	Ser	Val				
100					105					110									
Lys	Lys	Val	Ser	Glu	Ser	Leu	Leu	Ser	Asp	Ser	Ser	Arg	Ser	Phe	Lys				
115					120					125									
Thr	Pro	Val	Leu	Val	Pro	Phe	Pro	Gln	Ser	Gly	Ile	Trp	Thr	Ile	Ala				
130					135					140									
Phe	Val	Ser	Gly	Gln	Val	Ser	Asn	Ala	Val	Lys	Ala	Ala	Leu	Pro	Gln				
145					150					155					160				
Asp	Gly	Asp	Tyr	Leu	Ser	Val	Tyr	Val	Pro	Thr	Thr	Pro	Asn	Pro	Thr				
165					170					175									
Gly	Gly	Tyr	Tyr	Ile	Met	Val	Lys	Lys	Ser	Asp	Val	Arg	Glu	Leu	Asp				
180					185					190									
Met	Ser	Val	Asp	Glu	Ala	Leu	Lys	Tyr	Val	Ile	Ser	Leu	Gly	Met	Val				
195					200					205									
Ile	Pro	Asp	Asp	Leu	Pro	Val	Lys	Thr	Leu	Ala	Gly	Pro	Met	Pro	Pro				
210					215					220									
Glu	Lys	Ala	Glu	Leu	Pro	Glu	Gln	Gln											
225					230														

<210> 749
 <211> 1161
 <212> DNA
 <213> Neisseria meningitidis

<220>
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 <222> (235)..(235)
 <223> N= Unknown

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ctgcacgcct ttgtgttagg ttcgctgatt gccgtcgtgg tgtggtattt cttgtttaaa	180
ttcattatcg gsggtactca atatccccga aaagatgcag cgtttcggtt cggcncgtaa	240

aggcckcaag	sscgsgcttg	ccttgaacaa	ggcggggttg	gcgtattttg	aagggcgttt	300
tgaaaaggcg	gaactagaag	cctcacgcgt	gttgggtcaac	aaagtaggcc	gagagacaac	360
cggacttttg	cattgatgct	grgcgcgcac	gccgccggac	agatggaaaa	catcgasstg	420
cgcgaccgtt	atcttgcgga	aatcgccaaa	ctgccggaaa	aacagcagct	ttcccgttat	480
cttttggttg	cggaatcggc	gttgaaccgg	cgcgattacg	aagcggcgga	agccaatctt	540
catgcggcgg	cgaagatgaa	tgccaacctt	acgcgcctcg	tgctgtctga	attcgttacg	600
ctttcgacag	gggcgcgcgc	ttgcagggtc	tgccaaaaac	cgaaaaactt	tccaaggcgg	660
gcgcgttggg	caaatcgga	atggaacggg	atcaaaattg	ggcatatccg	tcgccagctg	720
gcggatgctg	ccgatgccgc	cgttttgaaa	acctgcctga	agcggattcc	cgacagcctc	780
aaaaacgggg	aattgagcgt	atcggttgcg	gaaaagtacg	aacgtttggg	actgtatgcc	840
gatgcggtca	aatgggtcaa	acagcattat	ccgcasaacc	gccgccccga	gcttttgtaa	900
gcctttgtcg	aaagcgtgcg	ctttttgggc	gagcgcgaac	agcagaaaagc	catcgatttt	960
gccgatgctt	ggctgaaaga	acagcccgat	aacgcgcttc	tgctgatgta	tctcggtcgg	1020
ctcgccttcg	gccgcaaact	ttggggcaag	gcaaaaggct	accttgaagc	gagcattgca	1080
ttaaagccga	gtatttcgcg	gcgtttgggt	ctaacaaagg	ttttcgacga	aatcggagaa	1140
cgcgagaagg	cggaggcgca	c				1161

<210> 750
 <211> 386
 <212> PRT
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (82)..(82)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (84)..(85)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (127)..(127)
 <223> Xaa= any amino acid

<220>
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 <222> (138)..(139)
 <223> Xaa= any amino acid

<220>
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 <222> (196)..(196)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (291)..(291)
 <223> Xaa= any amino acid

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			20					25					30					
Gly	Gln	Thr	Met	Leu	Arg	Ile	Asn	Leu	His	Ala	Phe	Val	Leu	Gly	Ser			
		35					40					45						
Leu	Ile	Ala	Val	Val	Val	Trp	Tyr	Phe	Leu	Phe	Lys	Phe	Ile	Ile	Gly			
	50					55					60							
Val	Leu	Asn	Ile	Pro	Glu	Lys	Met	Gln	Arg	Phe	Gly	Ser	Ala	Arg	Lys			
65					70					75					80			
Gly	Xaa	Lys	Xaa	Xaa	Leu	Ala	Leu	Asn	Lys	Ala	Gly	Leu	Ala	Tyr	Phe			
			85					90						95				
Glu	Gly	Arg	Phe	Glu	Lys	Ala	Glu	Leu	Glu	Ala	Ser	Arg	Val	Leu	Val			
			100					105					110					
Asn	Lys	Val	Gly	Arg	Asp	Asn	Arg	Thr	Leu	Ala	Leu	Met	Leu	Xaa	Ala			
		115					120					125						
His	Ala	Ala	Gly	Gln	Met	Glu	Asn	Ile	Xaa	Xaa	Arg	Asp	Arg	Tyr	Leu			
	130					135						140						
Ala	Glu	Ile	Ala	Lys	Leu	Pro	Glu	Lys	Gln	Gln	Leu	Ser	Arg	Tyr	Leu			
145					150					155					160			
Leu	Leu	Ala	Glu	Ser	Ala	Leu	Asn	Arg	Arg	Asp	Tyr	Glu	Ala	Ala	Glu			
			165						170					175				
Ala	Asn	Leu	His	Ala	Ala	Ala	Lys	Met	Asn	Ala	Asn	Leu	Thr	Arg	Leu			
		180						185					190					
Val	Arg	Leu	Xaa	Ile	Arg	Tyr	Ala	Phe	Asp	Arg	Gly	Asp	Ala	Leu	Gln			
		195					200					205						
Val	Leu	Ala	Lys	Thr	Glu	Lys	Leu	Ser	Lys	Ala	Gly	Ala	Leu	Gly	Lys			
	210					215					220							
Ser	Glu	Met	Glu	Arg	Tyr	Gln	Asn	Trp	Ala	Tyr	Arg	Arg	Gln	Leu	Ala			
225					230					235					240			
Asp	Ala	Ala	Asp	Ala	Ala	Ala	Leu	Lys	Thr	Cys	Leu	Lys	Arg	Ile	Pro			
			245						250					255				
Asp	Ser	Leu	Lys	Asn	Gly	Glu	Leu	Ser	Val	Ser	Val	Ala	Glu	Lys	Tyr			
		260						265					270					
Glu	Arg	Leu	Gly	Leu	Tyr	Ala	Asp	Ala	Val	Lys	Trp	Val	Lys	Gln	His			
		275					280					285						
Tyr	Pro	Xaa	Asn	Arg	Arg	Pro	Glu	Leu	Leu	Glu	Ala	Phe	Val	Glu	Ser			
	290					295					300							
Val	Arg	Phe	Leu	Gly	Glu	Arg	Glu	Gln	Gln	Lys	Ala	Ile	Asp	Phe	Ala			
305					310					315					320			

Asp Ala Trp Leu Lys Glu Gln Pro Asp Asn Ala Leu Leu Leu Met Tyr
325 330 335

Leu Gly Arg Leu Ala Phe Gly Arg Lys Leu Trp Gly Lys Ala Lys Gly
340 345 350

Tyr Leu Glu Ala Ser Ile Ala Leu Lys Pro Ser Ile Ser Ala Arg Leu
355 360 365

Val Leu Thr Lys Val Phe Asp Glu Ile Gly Glu Pro Gln Lys Ala Glu
370 375 380

Ala His
385

<210> 751
<211> 1224
<212> DNA
<213> Neisseria meningitidis

<400> 751
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ctgcacgcct ttgtgttagg ttcgctgatt gccgtcgtgg tgtgggtattt cttgttttaa 180
ttcattatcg gcgtactcaa tatccccgaa aagatgcagc gtttcgggttc ggcgcgtaaa 240
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gaaaaggcgg aactagaagc ctcacgcgtg ttggtcaaca aagaggccgg agacaaccgg 360
actttggcat tgatgctggg cgcgcacgcc gccggacaga tggaaaacat cgagctgcgc 420
gaccgttatc ttgcggaaat cgccaaactg ccggaaaaac agcagctttc ccgttatctt 480
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gcggcggcga agatgaatgc caaccttacg cgcctcgtgc gtctgcaact tcgttacgct 600
ttcgacaggg gcgacgcgtt gcaggttctg gcaaaaaccg aaaaactttc caaggcgggc 660
gcgttgggca aatcggaaat ggaacggtat caaaattggg cataccgccg ccagctggcg 720
gatgctgccg atgccgccgc tttgaaaacc tgcctgaagc ggattcccga cagcctcaaa 780
aacggggaat tgagcgtatc gggtgcggaa aagtacgaac gtttgggact gtatgccgat 840
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ttgtcgaata gcgtgcgctt tttgggcgag cgcgaacagc agaaagccat cgattttgcc 960
gatgcttggc tgaaagaaca gcccgataac gcgcttctgc tgatgtatct cggtcggctc 1020
gcctacggcc gcaaactttg gggcaaggca aaaggctacc ttgaagcgag cattgcatta 1080
aagccgagta tttccgcgcg tttggttcta gcaaagggtt tcgacgaaat cggagaaccg 1140
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gcagcgtag agcagcatag ctga 1224

<210> 752
<211> 407
<212> PRT
<213> Neisseria meningitidis

<400> 752
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Leu Ala Leu Ala Ser Gly Ile Tyr Thr Gly Asp Val Tyr Ile Val Leu
20 25 30

Gly Gln Thr Met Leu Arg Ile Asn Leu His Ala Phe Val Leu Gly Ser

35					40					45					
Leu	Ile	Ala	Val	Val	Val	Trp	Tyr	Phe	Leu	Phe	Lys	Phe	Ile	Ile	Gly
50						55					60				
Val	Leu	Asn	Ile	Pro	Glu	Lys	Met	Gln	Arg	Phe	Gly	Ser	Ala	Arg	Lys
65					70					75					80
Gly	Arg	Lys	Ala	Ala	Leu	Ala	Leu	Asn	Lys	Ala	Gly	Leu	Ala	Tyr	Phe
				85					90					95	
Glu	Gly	Arg	Phe	Glu	Lys	Ala	Glu	Leu	Glu	Ala	Ser	Arg	Val	Leu	Val
			100					105					110		
Asn	Lys	Glu	Ala	Gly	Asp	Asn	Arg	Thr	Leu	Ala	Leu	Met	Leu	Gly	Ala
		115					120					125			
His	Ala	Ala	Gly	Gln	Met	Glu	Asn	Ile	Glu	Leu	Arg	Asp	Arg	Tyr	Leu
	130					135					140				
Ala	Glu	Ile	Ala	Lys	Leu	Pro	Glu	Lys	Gln	Gln	Leu	Ser	Arg	Tyr	Leu
145					150					155					160
Leu	Leu	Ala	Glu	Ser	Ala	Leu	Asn	Arg	Arg	Asp	Tyr	Glu	Ala	Ala	Glu
				165					170						175
Ala	Asn	Leu	His	Ala	Ala	Ala	Lys	Met	Asn	Ala	Asn	Leu	Thr	Arg	Leu
			180					185						190	
Val	Arg	Leu	Gln	Leu	Arg	Tyr	Ala	Phe	Asp	Arg	Gly	Asp	Ala	Leu	Gln
		195					200					205			
Val	Leu	Ala	Lys	Thr	Glu	Lys	Leu	Ser	Lys	Ala	Gly	Ala	Leu	Gly	Lys
	210					215					220				
Ser	Glu	Met	Glu	Arg	Tyr	Gln	Asn	Trp	Ala	Tyr	Arg	Arg	Gln	Leu	Ala
225					230					235					240
Asp	Ala	Ala	Asp	Ala	Ala	Ala	Leu	Lys	Thr	Cys	Leu	Lys	Arg	Ile	Pro
				245					250					255	
Asp	Ser	Leu	Lys	Asn	Gly	Glu	Leu	Ser	Val	Ser	Val	Ala	Glu	Lys	Tyr
			260					265					270		
Glu	Arg	Leu	Gly	Leu	Tyr	Ala	Asp	Ala	Val	Lys	Trp	Val	Lys	Gln	His
		275					280					285			
Tyr	Pro	His	Asn	Arg	Arg	Pro	Glu	Leu	Leu	Glu	Ala	Phe	Val	Glu	Ser
	290					295					300				
Val	Arg	Phe	Leu	Gly	Glu	Arg	Glu	Gln	Gln	Lys	Ala	Ile	Asp	Phe	Ala
305					310					315					320
Asp	Ala	Trp	Leu	Lys	Glu	Gln	Pro	Asp	Asn	Ala	Leu	Leu	Leu	Met	Tyr
				325					330					335	

Leu Gly Arg Leu Ala Tyr Gly Arg Lys Leu Trp Gly Lys Ala Lys Gly
340 345 350

Tyr Leu Glu Ala Ser Ile Ala Leu Lys Pro Ser Ile Ser Ala Arg Leu
355 360 365

Val Leu Ala Lys Val Phe Asp Glu Ile Gly Glu Pro Gln Lys Ala Glu
370 375 380

Ala Gln Arg Asn Leu Val Leu Glu Ala Val Ser Asp Asp Glu Arg His
385 390 395 400

Ala Ala Leu Glu Gln His Ser
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<210> 753
<211> 1218
<212> DNA
<213> Neisseria meningitidis

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<222> (42)..(43)
<223> N= Unknown

<220>
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<222> (70)..(70)
<223> N= Unknown

<220>
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<222> (203)..(203)
<223> N= Unknown

<220>
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<222> (646)..(646)
<223> N= Unknown

<220>
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<222> (665)..(665)
<223> N= Unknown

<220>
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<222> (718)..(718)
<223> N= Unknown

<220>
<221> misc_feature
<222> (900)..(900)
<223> N= Unknown

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<221> misc_feature
<222> (1004)..(1004)
<223> N= Unknown

<220>
<221> misc_feature
<222> (1197)..(1197)
<223> N= Unknown

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ctgcacgcct ttgtgttagg ttcgctgatt gccgtcgtgg tgttggtattt cctgttcaaa 180
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gaccgttatc ttgcggaaat cgccaaactg ccggaaaagc agcagctttc ccgttatctt 480
ttgttggcgg aatcggcggt gaaccggcgc gattacgaag cggcgggaag caatcttcat 540
gcggcggcga agatgaatgc caaccttacg cgctcgtgc gtctgcaact tcgttacgct 600
ttcgacaggg gcgacgcgtt gcaggttctg gcaaaaaccg aaaaantttc caaggcgggc 660
gcgtngggca aatcggaaat ggaacggtat caaaattggg cataccgccg ccagctgncc 720
gatgctgccg atgccgccgc tttgaaaacc tgctgaagc ggattcccga cagcctcaaa 780
aacggggaat tgagcgtatc ggttgcggaa aagtacgaac gtttgggact gtatgccgat 840
gcggtcaaat gggtaaacaa gcattatccg cacaaccgcc gaccgaact tttggaagcn 900
tttgtcgaaa gcgtgcgctt tttgggcgaa cgcgatcagc agaaagccat cgattttgcc 960
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gcctacggcc gcaaaactttg gggcaaggca aaaggctacc ttgaagcgag cattgcatta 1080
aagccgagta ttccgcgcgc tttggttctg gcaaaggttt ttgacgaaac cggagaaccg 1140
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tccgccgaaa cccattga 1218

<210> 754
<211> 405
<212> PRT
<213> Neisseria meningitidis

<220>
<221> misc_feature
<222> (15)..(15)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (24)..(24)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (68)..(68)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (216)..(216)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (222)..(222)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (240)..(240)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (335)..(335)
<223> Xaa= any amino acid

<400> 754

Met	Lys	Thr	Val	Val	Trp	Ile	Val	Val	Leu	Phe	Ala	Ala	Ala	Xaa	Gly
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Leu	Ala	Leu	Ala	Ser	Gly	Ile	Xaa	Thr	Gly	Asp	Val	Tyr	Ile	Val	Leu
			20					25					30		
Gly	Gln	Thr	Met	Leu	Arg	Ile	Asn	Leu	His	Ala	Phe	Val	Leu	Gly	Ser
		35					40					45			
Leu	Ile	Ala	Val	Val	Val	Trp	Tyr	Phe	Leu	Phe	Lys	Phe	Ile	Ile	Gly
	50					55					60				
Val	Leu	Asn	Xaa	Pro	Glu	Lys	Met	Gln	Arg	Phe	Gly	Ser	Ala	Arg	Lys
65					70				75					80	
Gly	Arg	Lys	Ala	Ala	Leu	Ala	Leu	Asn	Lys	Ala	Gly	Leu	Ala	Tyr	Phe
			85					90						95	
Glu	Gly	Arg	Phe	Glu	Lys	Ala	Glu	Leu	Glu	Ala	Ser	Arg	Val	Leu	Gly
			100					105					110		
Asn	Lys	Glu	Ala	Gly	Asp	Asn	Arg	Thr	Leu	Ala	Leu	Met	Leu	Gly	Ala
		115					120					125			
His	Ala	Ala	Gly	Gln	Met	Glu	Asn	Ile	Glu	Leu	Arg	Asp	Arg	Tyr	Leu
		130				135					140				
Ala	Glu	Ile	Ala	Lys	Leu	Pro	Glu	Lys	Gln	Gln	Leu	Ser	Arg	Tyr	Leu
145					150					155					160
Leu	Leu	Ala	Glu	Ser	Ala	Leu	Asn	Arg	Arg	Asp	Tyr	Glu	Ala	Ala	Glu
			165					170						175	
Ala	Asn	Leu	His	Ala	Ala	Ala	Lys	Met	Asn	Ala	Asn	Leu	Thr	Arg	Leu
		180						185					190		
Val	Arg	Leu	Gln	Leu	Arg	Tyr	Ala	Phe	Asp	Arg	Gly	Asp	Ala	Leu	Gln
		195					200					205			
Val	Leu	Ala	Lys	Thr	Glu	Lys	Xaa	Ser	Lys	Ala	Gly	Ala	Xaa	Gly	Lys

210	215	220
Ser Glu Met Glu Arg Tyr Gln Asn Trp Ala Tyr Arg Arg Gln Leu Xaa 225 230 235 240		
Asp Ala Ala Asp Ala Ala Ala Leu Lys Thr Cys Leu Lys Arg Ile Pro 245 250 255		
Asp Ser Leu Lys Asn Gly Glu Leu Ser Val Ser Val Ala Glu Lys Tyr 260 265 270		
Glu Arg Leu Gly Leu Tyr Ala Asp Ala Val Lys Trp Val Lys Gln His 275 280 285		
Tyr Pro His Asn Arg Arg Pro Glu Leu Leu Glu Ala Phe Val Glu Ser 290 295 300		
Val Arg Phe Leu Gly Glu Arg Asp Gln Gln Lys Ala Ile Asp Phe Ala 305 310 315 320		
Asp Ala Trp Leu Lys Glu Gln Pro Asp Asn Ala Leu Leu Leu Xaa Tyr 325 330 335		
Leu Gly Arg Leu Ala Tyr Gly Arg Lys Leu Trp Gly Lys Ala Lys Gly 340 345 350		
Tyr Leu Glu Ala Ser Ile Ala Leu Lys Pro Ser Ile Ser Ala Arg Leu 355 360 365		
Val Leu Ala Lys Val Phe Asp Glu Thr Gly Glu Pro Gln Lys Ala Glu 370 375 380		
Ala Gln Arg Asn Leu Val Leu Ala Ser Val Ala Glu Glu Asn Arg Pro 385 390 395 400		
Ser Ala Glu Thr His 405		

<210> 755
 <211> 1218
 <212> DNA
 <213> *Neisseria gonorrhoeae*

<400> 755	
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tcgggcattt acaccggcga cgtgtatatc gtactcggac agaccatgct cagaatcaac	120
ctgcacgcct ttgtgttagg ttcgctgatt gccgtcgtgg tgtggtattt cctgtttaaa	180
ttcatcatcg gcgtactcaa tatccccgaa aatatgcggc gttccggttc ggcgcggaaa	240
ggccgcaagg ccgcgcttgc cttgaataag gcgggtttgg cgtatttcga agggcgtttt	300
gaaaaggcgg aactcgaagc ctctcgagtg ttgggcaaca aagaggccgg agacaaccgg	360
actttggcat tgatgctggg cgcgcacgcg gcaggacaga tggaaaatat cgagctgcgc	420
gaccgttatc ttgcggaaat cgccaaactg ccggaaaaac agcagctttc ccgctatctt	480
ctgctggcgg aatcggcggt aaaccggcgc gattacgaag cggcggaagc caatcttcat	540
gcggcggcga agatgaatgc caaccttacg cgctcgtgc gtctgcaact tcgttacgcc	600
ttcgatcggg gcgatgcgtt gcaggttctg gcaaaaaccg aaaaactttc caaggcgggc	660
gcgttgggca aatcggaaat ggaacggtat caaaattggg cataccgcgc ccagatggcg	720

gatgctgccg	atgccgccgc	tttgaaaacc	tgctgaagc	ggattcccga	cagcctcaaa	780
aacggggaat	tgagcgtatc	ggttgcgga	aagtacgaac	gtttgggact	gtatgccgat	840
gcggtcaaat	gggtcaaaaca	gcattatccg	cacaaccgcc	gccccgagct	tttgaagcc	900
tttgtcgaaa	gcgtgcgctt	tttgggcgag	cgcgaaacagc	agaaagccat	cgattttgcc	960
gattcttggc	tgaaagaaca	gcccgataac	gcgcttctgc	tgatgtatct	cggccggctc	1020
gcctacggcc	gcaaactttg	gggtaaggca	aaaggctacc	ttgaagcgag	tattgcactg	1080
aagccgagta	ttccggcgcg	tttgggtgtg	gcaaagggtt	ttgacgaaac	cgcacagtcg	1140
caaaaagccg	aagcacagcg	caacttggtt	ttggcaagcg	ttgccgggga	aaaccgccct	1200
tccgccgaaa	cccgttga					1218

<210> 756
 <211> 405
 <212> PRT
 <213> *Neisseria gonorrhoeae*

<400> 756

Met	Lys	Thr	Val	Val	Trp	Ile	Val	Val	Leu	Phe	Ala	Ala	Ala	Val	Gly
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Leu	Ala	Leu	Ala	Ser	Gly	Ile	Tyr	Thr	Gly	Asp	Val	Tyr	Ile	Val	Leu
			20					25					30		
Gly	Gln	Thr	Met	Leu	Arg	Ile	Asn	Leu	His	Ala	Phe	Val	Leu	Gly	Ser
		35					40					45			
Leu	Ile	Ala	Val	Val	Val	Trp	Tyr	Phe	Leu	Phe	Lys	Phe	Ile	Ile	Gly
	50					55					60				
Val	Leu	Asn	Ile	Pro	Glu	Asn	Met	Arg	Arg	Ser	Gly	Ser	Ala	Arg	Lys
65					70					75				80	
Gly	Arg	Lys	Ala	Ala	Leu	Ala	Leu	Asn	Lys	Ala	Gly	Leu	Ala	Tyr	Phe
			85						90					95	
Glu	Gly	Arg	Phe	Glu	Lys	Ala	Glu	Leu	Glu	Ala	Ser	Arg	Val	Leu	Gly
		100						105					110		
Asn	Lys	Glu	Ala	Gly	Asp	Asn	Arg	Thr	Leu	Ala	Leu	Met	Leu	Gly	Ala
		115					120					125			
His	Ala	Ala	Gly	Gln	Met	Glu	Asn	Ile	Glu	Leu	Arg	Asp	Arg	Tyr	Leu
	130					135					140				
Ala	Glu	Ile	Ala	Lys	Leu	Pro	Glu	Lys	Gln	Gln	Leu	Ser	Arg	Tyr	Leu
145					150					155					160
Leu	Leu	Ala	Glu	Ser	Ala	Leu	Asn	Arg	Arg	Asp	Tyr	Glu	Ala	Ala	Glu
			165						170					175	
Ala	Asn	Leu	His	Ala	Ala	Ala	Lys	Met	Asn	Ala	Asn	Leu	Thr	Arg	Leu
		180						185					190		
Val	Arg	Leu	Gln	Leu	Arg	Tyr	Ala	Phe	Asp	Arg	Gly	Asp	Ala	Leu	Gln
	195						200					205			
Val	Leu	Ala	Lys	Thr	Glu	Lys	Leu	Ser	Lys	Ala	Gly	Ala	Leu	Gly	Lys

210	215	220
Ser Glu Met Glu Arg Tyr Gln Asn Trp Ala Tyr Arg Arg Gln Met Ala 225 230 235 240		
Asp Ala Ala Asp Ala Ala Ala Leu Lys Thr Cys Leu Lys Arg Ile Pro 245 250 255		
Asp Ser Leu Lys Asn Gly Glu Leu Ser Val Ser Val Ala Glu Lys Tyr 260 265 270		
Glu Arg Leu Gly Leu Tyr Ala Asp Ala Val Lys Trp Val Lys Gln His 275 280 285		
Tyr Pro His Asn Arg Arg Pro Glu Leu Leu Glu Ala Phe Val Glu Ser 290 295 300		
Val Arg Phe Leu Gly Glu Arg Glu Gln Gln Lys Ala Ile Asp Phe Ala 305 310 315 320		
Asp Ser Trp Leu Lys Glu Gln Pro Asp Asn Ala Leu Leu Leu Met Tyr 325 330 335		
Leu Gly Arg Leu Ala Tyr Gly Arg Lys Leu Trp Gly Lys Ala Lys Gly 340 345 350		
Tyr Leu Glu Ala Ser Ile Ala Leu Lys Pro Ser Ile Pro Ala Arg Leu 355 360 365		
Val Leu Ala Lys Val Phe Asp Glu Thr Ala Gln Ser Gln Lys Ala Glu 370 375 380		
Ala Gln Arg Asn Leu Val Leu Ala Ser Val Ala Gly Glu Asn Arg Pro 385 390 395 400		
Ser Ala Glu Thr Arg 405		

<210> 757
 <211> 429
 <212> DNA
 <213> Neisseria meningitidis

<400> 757	
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ctgtttttacc tgccgaggat tttcgtcaat atggcgatga ttgatgtgcc gcgcggcaat	120
cccagagtatg tgcgtctgtc gggcatggcg gtgcggctgt accgttttat gtcgccgttg	180
ggcttcggcg cggtcgtgtt cggcgcggcg ataccgtttg ccgccggctg gtggggcagc	240
ggctgggtac acgtcaaaact gtgtttgggc ttgatgctct tggcttacca gttgtattgc	300
ggcgtgctgc tgcgccgttt tcaggattac agcaatgctt tttcacaccg ctggtaccgc	360
gtgttcaacg aaatccccgt gctgctgatg gttgccgcgc tgtatstggt cgtgttcaaa	420
ccgttttga	429

<210> 758
 <211> 142
 <212> PRT

<213> Neisseria meningitidis

<220>

<221> misc_feature

<222> (136)..(136)

<223> Xaa= any amino acid

<400> 758

Met Met Phe Ser Trp Phe Lys Leu Phe His Leu Phe Phe Val Ile Ser
1 5 10 15

Trp Phe Ala Gly Leu Phe Tyr Leu Pro Arg Ile Phe Val Asn Met Ala
20 25 30

Met Ile Asp Val Pro Arg Gly Asn Pro Glu Tyr Val Arg Leu Ser Gly
35 40 45

Met Ala Val Arg Leu Tyr Arg Phe Met Ser Pro Leu Gly Phe Gly Ala
50 55 60

Val Val Phe Gly Ala Ala Ile Pro Phe Ala Ala Gly Trp Trp Gly Ser
65 70 75 80

Gly Trp Val His Val Lys Leu Cys Leu Gly Leu Met Leu Leu Ala Tyr
85 90 95

Gln Leu Tyr Cys Gly Val Leu Leu Arg Arg Phe Gln Asp Tyr Ser Asn
100 105 110

Ala Phe Ser His Arg Trp Tyr Arg Val Phe Asn Glu Ile Pro Val Leu
115 120 125

Leu Met Val Ala Ala Leu Tyr Xaa Val Val Phe Lys Pro Phe
130 135 140

<210> 759

<211> 429

<212> DNA

<213> Neisseria meningitidis

<400> 759

atgatgtttt cttggttcaa gctgtttcac ttgttttttg tcatttcgtg gtttgcaggg 60
ctgttttacc tgccgaggat tttcgtcaat atggcgatga ttgatgtgcc gcgcggcaat 120
cccagagtatg tgcgtctgtc gggcatggcg gtgcggctgt accgttttat gtcgccgttg 180
ggcttcggcg cggtcgtgtt cggcgcggcg ataccgtttg ccgccggctg gtggggcagc 240
ggctgggtac acgtcaaact gtgtttgggc ttgatgctct tggcttacca gttgtattgc 300
ggcgtgctgc tgcgccgttt tcaggattac agcaatgctt tttcacaccg ctggtaccgc 360
gtgttcaacg aaatccccgt gctgctgatg gttgccgcgc tgtatctggt cgtgttcaaa 420
ccgttttga 429

<210> 760

<211> 142

<212> PRT

<213> Neisseria meningitidis

<400> 760

Met Met Phe Ser Trp Phe Lys Leu Phe His Leu Phe Phe Val Ile Ser
1 5 10 15

Trp Phe Ala Gly Leu Phe Tyr Leu Pro Arg Ile Phe Val Asn Met Ala
20 25 30

Met Ile Asp Val Pro Arg Gly Asn Pro Glu Tyr Val Arg Leu Ser Gly
35 40 45

Met Ala Val Arg Leu Tyr Arg Phe Met Ser Pro Leu Gly Phe Gly Ala
50 55 60

Val Val Phe Gly Ala Ala Ile Pro Phe Ala Ala Gly Trp Trp Gly Ser
65 70 75 80

Gly Trp Val His Val Lys Leu Cys Leu Gly Leu Met Leu Leu Ala Tyr
85 90 95

Gln Leu Tyr Cys Gly Val Leu Leu Arg Arg Phe Gln Asp Tyr Ser Asn
100 105 110

Ala Phe Ser His Arg Trp Tyr Arg Val Phe Asn Glu Ile Pro Val Leu
115 120 125

Leu Met Val Ala Ala Leu Tyr Leu Val Val Phe Lys Pro Phe
130 135 140

<210> 761
<211> 429
<212> DNA
<213> Neisseria meningitidis

<400> 761
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ctgtttttacc tgccgaggat tttcgtcaat atggcgatga ttgatgtgcc gcgcggcaat 120
cccagatag tgctctgtc gggcatggcg gtgcggtgt accgttttat gtcgccgttg 180
ggcttcggcg cggctcgtgtt cggcgcgggcg ataccgtttg ccgcccggctg gtggggcagc 240
ggctgggtac acgtcaaact gtgtttgggc ttgatgctct tggcttacca gttgtattgc 300
ggcgtgctgc tgcgccgttt tcaggattac agcaatgctt tttcacaccg ctggtaccgc 360
gtgttcaacg aaatccccgt gctgctgatg gttgccgcgc tgtatctggt cgtgttcaaa 420
ccgttttga 429

<210> 762
<211> 142
<212> PRT
<213> Neisseria meningitidis

<400> 762
Met Met Phe Ser Trp Phe Lys Leu Phe His Leu Phe Phe Val Ile Ser
1 5 10 15

Trp Phe Ala Gly Leu Phe Tyr Leu Pro Arg Ile Phe Val Asn Met Ala
20 25 30

Met Ile Asp Val Pro Arg Gly Asn Pro Glu Tyr Val Arg Leu Ser Gly
35 40 45

Met Ala Val Arg Leu Tyr Arg Phe Met Ser Pro Leu Gly Phe Gly Ala
50 55 60

Val Val Phe Gly Ala Ala Ile Pro Phe Ala Ala Gly Trp Trp Gly Ser
65 70 75 80

Gly Trp Val His Val Lys Leu Cys Leu Gly Leu Met Leu Leu Ala Tyr
85 90 95

Gln Leu Tyr Cys Gly Val Leu Leu Arg Arg Phe Gln Asp Tyr Ser Asn
100 105 110

Ala Phe Ser His Arg Trp Tyr Arg Val Phe Asn Glu Ile Pro Val Leu
115 120 125

Leu Met Val Ala Ala Leu Tyr Leu Val Val Phe Lys Pro Phe
130 135 140

<210> 763
<211> 429
<212> DNA
<213> Neisseria gonorrhoeae

<400> 763
atgatgtttt cttggttcaa gctggtttcac ttgttttttg tcatttcgtg gtttgcaggg 60
ctgttttacc tgccgaggat ttctgtcaat atggcgatga ttgatgcgcc gcgcggcaat 120
cccgagtatg tgcgcctgtc ggggatggcg gtgcggttgt accgttttat gtcgcctttg 180
ggtttcggcg cggtcgtgtt cggcgcggcg ataccgtttg ccgcgggccg gtggggcagc 240
ggctgggttc acgtcaaact gtgtttgggc ttgatgctct tggcttatca gttgtattgc 300
ggcgtgctgc tgcgccgttt tcaggattac agcaatgctt tttcacaccg ctggtaccgc 360
gtgttcaacg aaatccccgt gctgctgatg gttgccgcgc tgtatctggt cgtgttcaaa 420
ccgttttga 429

<210> 764
<211> 142
<212> PRT
<213> Neisseria gonorrhoeae

<400> 764
Met Met Phe Ser Trp Phe Lys Leu Phe His Leu Phe Phe Val Ile Ser
1 5 10 15

Trp Phe Ala Gly Leu Phe Tyr Leu Pro Arg Ile Phe Val Asn Met Ala
20 25 30

Met Ile Asp Ala Pro Arg Gly Asn Pro Glu Tyr Val Arg Leu Ser Gly
35 40 45

Met Ala Val Arg Leu Tyr Arg Phe Met Ser Pro Leu Gly Phe Gly Ala
50 55 60

Val Val Phe Gly Ala Ala Ile Pro Phe Ala Ala Gly Arg Trp Gly Ser
65 70 75 80

Gly Trp Val His Val Lys Leu Cys Leu Gly Leu Met Leu Leu Ala Tyr
85 90 95

Gln Leu Tyr Cys Gly Val Leu Leu Arg Arg Phe Gln Asp Tyr Ser Asn
100 105 110

Ala Phe Ser His Arg Trp Tyr Arg Val Phe Asn Glu Ile Pro Val Leu
115 120 125

Leu Met Val Ala Ala Leu Tyr Leu Val Val Phe Lys Pro Phe
130 135 140

<210> 765
<211> 592
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<220>
<221> misc_feature
<222> (24)..(30)
<223> N= Unknown

<400> 765
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ttggggcgga tggctctaac tgaagccga gccgcacgtg cttgatatta cggaaacgggt 120
caggcgcggc atttcgttta cgattttgtc cgaaccggat acgccgatta aggcgaagct 180
cgacagcgtc gaccccgggc tgaccacgat gtcgtcgggc ggttacaaca gcagtacgga 240
tacggcttcc aatgcggtct actattatgc ccgttcgttt gtgccgaatc cggacggcaa 300
actcgccacg gggatgacga cgcagaatac ggttgaaatc gacggcgtga aaaatgtgct 360
gattattccg tcgctgaccg tgaaaaatcg cggcggaag gcgtttgtgc gcgtgttggg 420
tgcgacggc aaggcgggcg aacgcgaaat ccggaccggg atgagagaca gtatgaatac 480
cgaagtaaaa agcgggttga aagaggggga caaagtggc atctccgaaa taaccgccgc 540
cgagcaacag gaaagcggcg aacgcgcctt aggcggcccg ccgcgccgat aa 592

<210> 766
<211> 392
<212> PRT
<213> Neisseria meningitidis

<220>
<221> misc_feature
<222> (24)..(24)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (42)..(239)
<223> Xaa= any amino acid

<400> 766
Met Ala Lys Met Met Lys Trp Ala Ala Val Ala Ala Val Ala Ala Ala
1 5 10 15

Ala Val Trp Gly Gly Trp Ser Xaa Leu Lys Pro Glu Pro His Val Leu
20 25 30

Asp	Ile	Thr	Glu	Thr	Val	Arg	Arg	Gly	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa		35	40	45	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	50	55	60	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	65	70	75	80
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	85	90	95	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	100	105	110	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	115	120	125	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	130	135	140	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	145	150	155	160
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	165	170	175	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	180	185	190	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	195	200	205	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	210	215	220	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Ile	225	230	235	240
Ser	Phe	Thr	Ile	Leu	Ser	Glu	Pro	Asp	Thr	Pro	Ile	Lys	Ala	Lys	Leu		245	250	255	
Asp	Ser	Val	Asp	Pro	Gly	Leu	Thr	Thr	Met	Ser	Ser	Gly	Gly	Tyr	Asn		260	265	270	
Ser	Ser	Thr	Asp	Thr	Ala	Ser	Asn	Ala	Val	Tyr	Tyr	Tyr	Ala	Arg	Ser		275	280	285	
Phe	Val	Pro	Asn	Pro	Asp	Gly	Lys	Leu	Ala	Thr	Gly	Met	Thr	Thr	Gln		290	295	300	
Asn	Thr	Val	Glu	Ile	Asp	Gly	Val	Lys	Asn	Val	Leu	Ile	Ile	Pro	Ser		305	310	315	320
Leu	Thr	Val	Lys	Asn	Arg	Gly	Gly	Lys	Ala	Phe	Val	Arg	Val	Leu	Gly		325	330	335	

Ala Asp Gly Lys Ala Ala Glu Arg Glu Ile Arg Thr Gly Met Arg Asp
340 345 350

Ser Met Asn Thr Glu Val Lys Ser Gly Leu Lys Glu Gly Asp Lys Val
355 360 365

Val Ile Ser Glu Ile Thr Ala Ala Glu Gln Gln Glu Ser Gly Glu Arg
370 375 380

Ala Leu Gly Gly Pro Pro Arg Arg
385 390

<210> 767
<211> 1005
<212> DNA
<213> Neisseria meningitidis

<400> 767
gtatcggtcg gcgcgcagggc atcgggggcag attaagatac tttatgtcaa actcggggcaa 60
cagggttaaaa agggcgattt gattgcggaa atcaattcga cctcgagac caatacgctc 120
aatacggaat aatccaagtt ggaaacgtat caggcgaagc tgggtgtcggc acagattgca 180
ttgggcagcg cggagaagaa atataagcgt caggcggcgt tatggaagga aaacgcgact 240
tccaaagagg atttggaag cgcgaggat gcgtttgccg ccgccaagc caatgttgcc 300
gagctgaagg ctttaatcag acagagcaaa atttccatca ataccgccga gtcggaattg 360
ggctacacgc gcattaccgc aacgatggac ggcacgggtg tggcgattct cgtggaagag 420
gggcagactg tgaacgcggc gcagtctacg ccgacgattg tccaattggc gaatctggat 480
atgatgttga acaaaatgca gattgccgag ggcgatatta ccaaggtgaa ggcggggcag 540
gatatttcgt ttacgatttt gtccgaaccg gatacgccga ttaaggcgaa gctcgacagc 600
gtcgaccccg ggctgaccac gatgtcgtcg ggcggttaca acagcagtac ggatacggct 660
tccaatgcgg tctactatta tgcccgttcg tttgtgccga atccggacgg caaactcgcc 720
acggggatga cgacgcagaa tacggttgaa atcgacggcg tgaaaaatgt gctgattatt 780
ccgtcgctga ccgtgaaaaa tcgcggcgcc aaggcgtttg tgccggtgtt ggggtgcggac 840
ggcaaggcgg cggaacgcga aatccggacc ggtatgagag acagtatgaa taccgaagta 900
aaaagcgggt tgaaagaggg ggacaaagtg gtcattctccg aaataaccgc cgccgagcaa 960
caggaaagcg gcgaacgcgc ctaggcggc cgcgcgcgc gataa 1005

<210> 768
<211> 334
<212> PRT
<213> Neisseria meningitidis

<400> 768
Val Ser Val Gly Ala Gln Ala Ser Gly Gln Ile Lys Ile Leu Tyr Val
1 5 10 15
Lys Leu Gly Gln Gln Val Lys Lys Gly Asp Leu Ile Ala Glu Ile Asn
20 25 30
Ser Thr Ser Gln Thr Asn Thr Leu Asn Thr Glu Lys Ser Lys Leu Glu
35 40 45
Thr Tyr Gln Ala Lys Leu Val Ser Ala Gln Ile Ala Leu Gly Ser Ala
50 55 60
Glu Lys Lys Tyr Lys Arg Gln Ala Ala Leu Trp Lys Glu Asn Ala Thr
65 70 75 80

Ser Lys Glu Asp Leu Glu Ser Ala Gln Asp Ala Phe Ala Ala Ala Lys
 85 90 95
 Ala Asn Val Ala Glu Leu Lys Ala Leu Ile Arg Gln Ser Lys Ile Ser
 100 105 110
 Ile Asn Thr Ala Glu Ser Glu Leu Gly Tyr Thr Arg Ile Thr Ala Thr
 115 120 125
 Met Asp Gly Thr Val Val Ala Ile Leu Val Glu Glu Gly Gln Thr Val
 130 135 140
 Asn Ala Ala Gln Ser Thr Pro Thr Ile Val Gln Leu Ala Asn Leu Asp
 145 150 155 160
 Met Met Leu Asn Lys Met Gln Ile Ala Glu Gly Asp Ile Thr Lys Val
 165 170 175
 Lys Ala Gly Gln Asp Ile Ser Phe Thr Ile Leu Ser Glu Pro Asp Thr
 180 185 190
 Pro Ile Lys Ala Lys Leu Asp Ser Val Asp Pro Gly Leu Thr Thr Met
 195 200 205
 Ser Ser Gly Gly Tyr Asn Ser Ser Thr Asp Thr Ala Ser Asn Ala Val
 210 215 220
 Tyr Tyr Tyr Ala Arg Ser Phe Val Pro Asn Pro Asp Gly Lys Leu Ala
 225 230 235 240
 Thr Gly Met Thr Thr Gln Asn Thr Val Glu Ile Asp Gly Val Lys Asn
 245 250 255
 Val Leu Ile Ile Pro Ser Leu Thr Val Lys Asn Arg Gly Gly Lys Ala
 260 265 270
 Phe Val Arg Val Leu Gly Ala Asp Gly Lys Ala Ala Glu Arg Glu Ile
 275 280 285
 Arg Thr Gly Met Arg Asp Ser Met Asn Thr Glu Val Lys Ser Gly Leu
 290 295 300
 Lys Glu Gly Asp Lys Val Val Ile Ser Glu Ile Thr Ala Ala Glu Gln
 305 310 315 320
 Gln Glu Ser Gly Glu Arg Ala Leu Gly Gly Pro Pro Arg Arg
 325 330

<210> 769
 <211> 1179
 <212> DNA
 <213> *Neisseria meningitidis*

<400> 769
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 ggatggtctt atctgaagcc cgagccgcag gctgcttata ttacggaaac ggtcaggcgc 120

ggcgacatca	gccggacggt	ttctgcaaca	ggggagattt	cgccgtccaa	cctggtatcg	180
gtcggcgcg	aggcatcg	gcagattaag	aaactttatg	tcaaactcgg	gcaacaggtt	240
aaaaagggcg	atttgattgc	ggaaatcaat	tcgacctcgc	agaccaatac	gctcaatacg	300
gaaaaatcca	aattggaaac	gtatcaggcg	aagctggtgt	cggcacagat	tgcattgggc	360
agcgcggaga	agaaatataa	gcgtcaggcg	gcgttggtgga	aggatgatgc	gaccgctaaa	420
gaagatttgg	aaagcgcaca	ggatgcgctt	gccgccgcc	aagccaatgt	tgccgagctg	480
aaggctctaa	tcagacagag	caaaatttcc	atcaataccg	ccgagtcgga	attgggctac	540
acgcgcatta	ccgcaacgat	ggacggcacg	gtggtggcga	ttctcgtgga	agaggggcag	600
actgtgaacg	cggcgcagtc	tacgccgacg	attgtccaat	tggcgaatct	ggatatgatg	660
ttgaacaaaa	tgcagattgc	cgagggcgat	attaccaagg	tgaaggcggg	gcaggatatt	720
tcgtttacga	ttttgtccga	accggatacg	ccgattaagg	cgaagctcga	cagcgtcgac	780
ccggggtga	ccacgatgtc	gtcgggcggc	tacaacagca	gtacggatac	ggcttccaat	840
gcggtctact	attatgcccg	ttcgtttgtg	ccgaatccgg	acggcaaact	cgccacgggg	900
atgacgacgc	agaatacggg	tgaaatcgac	ggtgtgaaaa	atgtgctgat	tattccgtcg	960
ctgaccgtga	aaaatcgcg	cggcagggcg	tttgtgcg	tggtgggtgc	agacggcaag	1020
gcggcggaac	gcgaaatccg	gaccgggatg	agagacagta	tgaataccga	agtaaaaagc	1080
gggttgaaag	agggggacaa	agtggtcac	tccgaaataa	ccgccgccga	gcagcaggaa	1140
agcggcgaa	gcgcctagg	cggcccgccg	cgccgataa			1179

<210> 770
 <211> 392
 <212> PRT
 <213> *Neisseria meningitidis*

<400> 770

Met	Ala	Lys	Met	Met	Lys	Trp	Ala	Ala	Val	Ala	Ala	Val	Ala	Ala	Ala
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Ala	Val	Trp	Gly	Gly	Trp	Ser	Tyr	Leu	Lys	Pro	Glu	Pro	Gln	Ala	Ala
			20					25					30		
Tyr	Ile	Thr	Glu	Thr	Val	Arg	Arg	Gly	Asp	Ile	Ser	Arg	Thr	Val	Ser
		35					40					45			
Ala	Thr	Gly	Glu	Ile	Ser	Pro	Ser	Asn	Leu	Val	Ser	Val	Gly	Ala	Gln
	50					55					60				
Ala	Ser	Gly	Gln	Ile	Lys	Lys	Leu	Tyr	Val	Lys	Leu	Gly	Gln	Gln	Val
65					70					75					80
Lys	Lys	Gly	Asp	Leu	Ile	Ala	Glu	Ile	Asn	Ser	Thr	Ser	Gln	Thr	Asn
				85					90					95	
Thr	Leu	Asn	Thr	Glu	Lys	Ser	Lys	Leu	Glu	Thr	Tyr	Gln	Ala	Lys	Leu
		100						105					110		
Val	Ser	Ala	Gln	Ile	Ala	Leu	Gly	Ser	Ala	Glu	Lys	Lys	Tyr	Lys	Arg
		115					120					125			
Gln	Ala	Ala	Leu	Trp	Lys	Asp	Asp	Ala	Thr	Ala	Lys	Glu	Asp	Leu	Glu
	130					135						140			
Ser	Ala	Gln	Asp	Ala	Leu	Ala	Ala	Ala	Lys	Ala	Asn	Val	Ala	Glu	Leu
145					150					155				160	
Lys	Ala	Leu	Ile	Arg	Gln	Ser	Lys	Ile	Ser	Ile	Asn	Thr	Ala	Glu	Ser

165					170					175					
Glu	Leu	Gly	Tyr	Thr	Arg	Ile	Thr	Ala	Thr	Met	Asp	Gly	Thr	Val	Val
			180					185					190		
Ala	Ile	Leu	Val	Glu	Glu	Gly	Gln	Thr	Val	Asn	Ala	Ala	Gln	Ser	Thr
		195					200					205			
Pro	Thr	Ile	Val	Gln	Leu	Ala	Asn	Leu	Asp	Met	Met	Leu	Asn	Lys	Met
		210					215					220			
Gln	Ile	Ala	Glu	Gly	Asp	Ile	Thr	Lys	Val	Lys	Ala	Gly	Gln	Asp	Ile
		225					230					235			240
Ser	Phe	Thr	Ile	Leu	Ser	Glu	Pro	Asp	Thr	Pro	Ile	Lys	Ala	Lys	Leu
			245					250						255	
Asp	Ser	Val	Asp	Pro	Gly	Leu	Thr	Thr	Met	Ser	Ser	Gly	Gly	Tyr	Asn
		260						265					270		
Ser	Ser	Thr	Asp	Thr	Ala	Ser	Asn	Ala	Val	Tyr	Tyr	Tyr	Ala	Arg	Ser
		275					280						285		
Phe	Val	Pro	Asn	Pro	Asp	Gly	Lys	Leu	Ala	Thr	Gly	Met	Thr	Thr	Gln
		290					295					300			
Asn	Thr	Val	Glu	Ile	Asp	Gly	Val	Lys	Asn	Val	Leu	Ile	Ile	Pro	Ser
		305					310					315			320
Leu	Thr	Val	Lys	Asn	Arg	Gly	Gly	Arg	Ala	Phe	Val	Arg	Val	Leu	Gly
			325					330						335	
Ala	Asp	Gly	Lys	Ala	Ala	Glu	Arg	Glu	Ile	Arg	Thr	Gly	Met	Arg	Asp
		340						345					350		
Ser	Met	Asn	Thr	Glu	Val	Lys	Ser	Gly	Leu	Lys	Glu	Gly	Asp	Lys	Val
		355					360					365			
Val	Ile	Ser	Glu	Ile	Thr	Ala	Ala	Glu	Gln	Gln	Glu	Ser	Gly	Glu	Arg
		370					375					380			
Ala	Leu	Gly	Gly	Pro	Pro	Arg	Arg								
		385					390								

<210> 771

<211> 1179

<212> DNA

<213> Neisseria gonorrhoeae

<400> 771

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ggcgatatca	gccggacggt	ttccgcgacg	ggcgagattt	cgccgtccaa	cctggatatg	180
gtcggcgcgc	aggcttcggg	gcagattaaa	aagctttatg	tcaaactcgg	gcaacaggtc	240
aaaaaggcgc	atttgattgc	ggaaatcaat	tcgaccacgc	agaccaacac	gatcgatatg	300
gaaaaatcca	aattggaaac	gtatcaggcg	aagctggtgt	cggcacagat	tgcatggggc	360

agcgcggaga	agaaatataa	gcgtcaggcg	gcgttggtgga	aggatgatgc	gacctctaaa	420
gaagatthtgg	aaagcgcgca	ggatgcgctt	gccgccgcca	aagccaatgt	tgccgagttg	480
aaggctthtaa	tcagacagag	caaaatttcc	atcaataccg	ccgagtcgga	tttgggctac	540
acgcgcatta	ccgcgacgat	ggacggcacg	gtgggtggcga	ttcccgtgga	agaggggcag	600
actgtgaacg	cggcgcagtc	tacgccgacg	attgtccaat	tggcgaatct	ggatatgatg	660
ttgaacaaaa	tgcagattgc	cgagggcgat	attaccaagg	tgaaggcggg	gcaggatatt	720
tcgttttacga	ttttgtccga	accggatacg	ccgattaagg	cgaagctcga	cagcgtcgac	780
cccgggctga	ccacgatgtc	gtcggggcggc	tacaacagca	gtacggatac	ggcttccaat	840
gcggtctatt	attatgcccg	ttcgtttgtg	ccgaatccgg	acggcaaact	cgccacgggg	900
atgacgacgc	agaatacggg	tgaatcgac	ggtgtgaaaa	atgtgttgct	tattccgtcg	960
ctgaccgtga	aaaatcgcg	cggcaaggcg	ttcgtacgcg	tggtgggtgc	ggacggcaag	1020
gcagtggaac	gcgaaatccg	gaccgggatg	aaagacagta	tgaataccga	agtgaaaagc	1080
gggttgaaaag	aggggggacaa	agtggtcac	tccgaaataa	ccgccgccga	gcagcaggaa	1140
agcggcgaac	gcgccctagg	cggcccgccg	cgccgataa			1179

<210> 772

<211> 392

<212> PRT

<213> Neisseria gonorrhoeae

<400> 772

Met	Ala	Lys	Met	Met	Lys	Trp	Ala	Ala	Val	Ala	Ala	Val	Ala	Ala	Ala	1	5	10	15
Ala	Val	Trp	Gly	Gly	Trp	Ser	Tyr	Leu	Lys	Pro	Glu	Pro	Gln	Ala	Ala	20	25	30	
Tyr	Ile	Thr	Glu	Ala	Val	Arg	Arg	Gly	Asp	Ile	Ser	Arg	Thr	Val	Ser	35	40	45	
Ala	Thr	Gly	Glu	Ile	Ser	Pro	Ser	Asn	Leu	Val	Ser	Val	Gly	Ala	Gln	50	55	60	
Ala	Ser	Gly	Gln	Ile	Lys	Lys	Leu	Tyr	Val	Lys	Leu	Gly	Gln	Gln	Val	65	70	75	80
Lys	Lys	Gly	Asp	Leu	Ile	Ala	Glu	Ile	Asn	Ser	Thr	Thr	Gln	Thr	Asn	85	90	95	
Thr	Ile	Asp	Met	Glu	Lys	Ser	Lys	Leu	Glu	Thr	Tyr	Gln	Ala	Lys	Leu	100	105	110	
Val	Ser	Ala	Gln	Ile	Ala	Leu	Gly	Ser	Ala	Glu	Lys	Lys	Tyr	Lys	Arg	115	120	125	
Gln	Ala	Ala	Leu	Trp	Lys	Asp	Asp	Ala	Thr	Ser	Lys	Glu	Asp	Leu	Glu	130	135	140	
Ser	Ala	Gln	Asp	Ala	Leu	Ala	Ala	Ala	Lys	Ala	Asn	Val	Ala	Glu	Leu	145	150	155	160
Lys	Ala	Leu	Ile	Arg	Gln	Ser	Lys	Ile	Ser	Ile	Asn	Thr	Ala	Glu	Ser	165	170	175	
Asp	Leu	Gly	Tyr	Thr	Arg	Ile	Thr	Ala	Thr	Met	Asp	Gly	Thr	Val	Val	180	185	190	

Ala Ile Pro Val Glu Glu Gly Gln Thr Val Asn Ala Ala Gln Ser Thr
195 200 205

Pro Thr Ile Val Gln Leu Ala Asn Leu Asp Met Met Leu Asn Lys Met
210 215 220

Gln Ile Ala Glu Gly Asp Ile Thr Lys Val Lys Ala Gly Gln Asp Ile
225 230 235 240

Ser Phe Thr Ile Leu Ser Glu Pro Asp Thr Pro Ile Lys Ala Lys Leu
245 250 255

Asp Ser Val Asp Pro Gly Leu Thr Thr Met Ser Ser Gly Gly Tyr Asn
260 265 270

Ser Ser Thr Asp Thr Ala Ser Asn Ala Val Tyr Tyr Tyr Ala Arg Ser
275 280 285

Phe Val Pro Asn Pro Asp Gly Lys Leu Ala Thr Gly Met Thr Thr Gln
290 295 300

Asn Thr Val Glu Ile Asp Gly Val Lys Asn Val Leu Leu Ile Pro Ser
305 310 315 320

Leu Thr Val Lys Asn Arg Gly Gly Lys Ala Phe Val Arg Val Leu Gly
325 330 335

Ala Asp Gly Lys Ala Val Glu Arg Glu Ile Arg Thr Gly Met Lys Asp
340 345 350

Ser Met Asn Thr Glu Val Lys Ser Gly Leu Lys Glu Gly Asp Lys Val
355 360 365

Val Ile Ser Glu Ile Thr Ala Ala Glu Gln Gln Glu Ser Gly Glu Arg
370 375 380

Ala Leu Gly Gly Pro Pro Arg Arg
385 390

<210> 773
<211> 555
<212> DNA
<213> Neisseria meningitidis

<400> 773
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aaagtgccgc tatacaatat ccgtttcgag tccggcggta cggttgtcgg caataccctg 120
caccctacct actatagaga catacgcagg ggcaaaactgt atgcggaagc caaattcgcc 180
gacggcagcg taacttacgg caaagcgggc gagagcaaaa ccgagcaaag cccaaggct 240
atggatttgt tcacgcttgc ctggcagttg gcggcaaatg acgcgaaact cccccgggg 300
ctgaaaatca ccaacggcaa aaaactttat tccgtcggcg gtttgaataa ggcgggtaca 360
ggaaaatata gcataggcgg cgtggaaacc gaagtcgtca aatatcgggt gcggcgcggc 420
gacgatgcgg taatgtattt cttcgcaccg tccctgaaca atattcggc acaaatcggc 480
tataccgacg acggcaaaac ctatacgtg aaactcaaat cgggtgcagat caacggccag 540
gcagccaaac cgtaa 555

<210> 774
 <211> 184
 <212> PRT
 <213> Neisseria meningitidis

<400> 774
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 Val Ser Thr Ile Lys Val Pro Leu Tyr Asn Ile Arg Phe Glu Ser Gly
 20 25 30
 Gly Thr Val Val Gly Asn Thr Leu His Pro Thr Tyr Tyr Arg Asp Ile
 35 40 45
 Arg Arg Gly Lys Leu Tyr Ala Glu Ala Lys Phe Ala Asp Gly Ser Val
 50 55 60
 Thr Tyr Gly Lys Ala Gly Glu Ser Lys Thr Glu Gln Ser Pro Lys Ala
 65 70 75 80
 Met Asp Leu Phe Thr Leu Ala Trp Gln Leu Ala Ala Asn Asp Ala Lys
 85 90 95
 Leu Pro Pro Gly Leu Lys Ile Thr Asn Gly Lys Lys Leu Tyr Ser Val
 100 105 110
 Gly Gly Leu Asn Lys Ala Gly Thr Gly Lys Tyr Ser Ile Gly Gly Val
 115 120 125
 Glu Thr Glu Val Val Lys Tyr Arg Val Arg Arg Gly Asp Asp Ala Val
 130 135 140
 Met Tyr Phe Phe Ala Pro Ser Leu Asn Asn Ile Pro Ala Gln Ile Gly
 145 150 155 160
 Tyr Thr Asp Asp Gly Lys Thr Tyr Thr Leu Lys Leu Lys Ser Val Gln
 165 170 175
 Ile Asn Gly Gln Ala Ala Lys Pro
 180

<210> 775
 <211> 672
 <212> DNA
 <213> Neisseria meningitidis

<400> 775
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 gcgtatgcgg cagggctgcc ccaatccgcc gtgctgcact attccggcag ctacggcatt 120
 cccgccacga tgacatttga acgcagcggc aatgcttaca aaatcgtttc gacgattaaa 180
 gtgccgctat acaatatccg tttcgagtcc ggcgggtacg ttgtcggcaa taccctgcac 240
 cctacctact atagagacat acgcaggggc aaactgtatg cggaagccaa attcggcgac 300
 ggcagcgtaa cttacggcaa agcgggcgag agcaaaaccg agcaaagccc caaggctatg 360
 gatttgttca cgcttgccctg gcagttggcg gcaaatgacg cgaaactccc cccggggctg 420
 aaaatcacca acggcaaaaa actttattcc gtcggcggtt tgaataaggc ggggtacagga 480

aaatacagca	taggcggcgt	ggaaaccgaa	gtcgtcaa	atcgggtg	gcgcggcg	540
gatgcggtaa	tgtatttctt	cgcaccgtcc	ctgaacaata	ttccggcaca	aatcggctat	600
accgacgacg	gcaaaacctt	tacgctgaaa	ctcaaatcgg	tgcatgatcaa	cggccaggca	660
gccaaaccgt	aa					672

<210> 776
 <211> 223
 <212> PRT
 <213> *Neisseria meningitidis*

<400> 776

Met	Met	Lys	Thr	Phe	Lys	Asn	Ile	Phe	Ser	Ala	Ala	Ile	Leu	Ser	Ala	
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Ala	Leu	Pro	Cys	Ala	Tyr	Ala	Ala	Gly	Leu	Pro	Gln	Ser	Ala	Val	Leu	
			20					25					30			
His	Tyr	Ser	Gly	Ser	Tyr	Gly	Ile	Pro	Ala	Thr	Met	Thr	Phe	Glu	Arg	
		35					40					45				
Ser	Gly	Asn	Ala	Tyr	Lys	Ile	Val	Ser	Thr	Ile	Lys	Val	Pro	Leu	Tyr	
	50					55					60					
Asn	Ile	Arg	Phe	Glu	Ser	Gly	Gly	Thr	Val	Val	Gly	Asn	Thr	Leu	His	
65					70					75				80		
Pro	Thr	Tyr	Tyr	Arg	Asp	Ile	Arg	Arg	Gly	Lys	Leu	Tyr	Ala	Glu	Ala	
				85					90					95		
Lys	Phe	Ala	Asp	Gly	Ser	Val	Thr	Tyr	Gly	Lys	Ala	Gly	Glu	Ser	Lys	
			100					105					110			
Thr	Glu	Gln	Ser	Pro	Lys	Ala	Met	Asp	Leu	Phe	Thr	Leu	Ala	Trp	Gln	
		115					120					125				
Leu	Ala	Ala	Asn	Asp	Ala	Lys	Leu	Pro	Pro	Gly	Leu	Lys	Ile	Thr	Asn	
	130					135					140					
Gly	Lys	Lys	Leu	Tyr	Ser	Val	Gly	Gly	Leu	Asn	Lys	Ala	Gly	Thr	Gly	
145					150					155					160	
Lys	Tyr	Ser	Ile	Gly	Gly	Val	Glu	Thr	Glu	Val	Val	Lys	Tyr	Arg	Val	
				165					170					175		
Arg	Arg	Gly	Asp	Asp	Ala	Val	Met	Tyr	Phe	Phe	Ala	Pro	Ser	Leu	Asn	
			180					185					190			
Asn	Ile	Pro	Ala	Gln	Ile	Gly	Tyr	Thr	Asp	Asp	Gly	Lys	Thr	Tyr	Thr	
		195					200					205				
Leu	Lys	Leu	Lys	Ser	Val	Gln	Ile	Asn	Gly	Gln	Ala	Ala	Lys	Pro		
	210						215				220					

<210> 777
 <211> 672
 <212> DNA

<213> Neisseria meningitidis

<220>

<221> misc_feature

<222> (82)..(82)

<223> N= Unknown

<220>

<221> misc_feature

<222> (129)..(129)

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<222> (131)..(132)

<223> N= Unknown

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<221> misc_feature

<222> (134)..(135)

<223> N= Unknown

<220>

<221> misc_feature

<222> (137)..(138)

<223> N= Unknown

<220>

<221> misc_feature

<222> (140)..(140)

<223> N= Unknown

<220>

<221> misc_feature

<222> (143)..(145)

<223> N= Unknown

<220>

<221> misc_feature

<222> (147)..(147)

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<222> (149)..(149)

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<221> misc_feature

<222> (158)..(158)

<223> N= Unknown

<220>

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<222> (326)..(330)

<223> N= Unknown

<220>
<221> misc_feature
<222> (332)..(332)
<223> N= Unknown

<220>
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<222> (334)..(339)
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<222> (341)..(341)
<223> N= Unknown

<220>
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<222> (378)..(378)
<223> N= Unknown

<400> 777
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gcgtatgcgg cagggctgcc cnaatccgcc gtgctgcaact attccggcag ctacggcatt 120
cccgccacna nnanntnngn acnnngngnc aatgcttnca aaatcgtttc gacgattaaa 180
gtgccgctat acaatatccg ttctgagtcg gccgggtacgg ttgtcggcaa taccctgcac 240
cctacctact atagagacat acgcaggggc aaactgtatg cgggaagccaa attcgccgac 300
ggcagcgtaa cctacggcaa agcggnnnnn ancnnnnnnng ngcaaagccc caaggctatg 360
gatttgttca cgcttgcntg gcagttggcg gcaaactgacg cgaaactccc cccggggctg 420
aaaatcacca acggcaaaaa actttattcc gtcggcggtt tgaataaggc ggggtacagga 480
aaatacagca taggcggcgt ggaaaccgaa tgcgtcaaact atcgggtgcg gcgcggcgac 540
gatgcggtaa tgtattttctt cgcaccgtcc ctgaacaata ttccggcaca aatcggtat 600
accgacgacg gcaaaacctt tacgctgaaa ctcaaactcg tgcagatcaa cggccaggca 660
gccaaaccgt aa 672

<210> 778
<211> 223
<212> PRT
<213> Neisseria meningitidis

<220>
<221> misc_feature
<222> (28)..(28)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (44)..(50)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (53)..(53)
<223> Xaa= any amino acid

<220>
<221> misc_feature

<222> (109)..(114)

<223> Xaa= any amino acid

<400> 778

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20 25 30

His Tyr Ser Gly Ser Tyr Gly Ile Pro Ala Thr Xaa Xaa Xaa Xaa Xaa
35 40 45

Xaa Xaa Asn Ala Xaa Lys Ile Val Ser Thr Ile Lys Val Pro Leu Tyr
50 55 60

Asn Ile Arg Phe Glu Ser Gly Gly Thr Val Val Gly Asn Thr Leu His
65 70 75 80

Pro Thr Tyr Tyr Arg Asp Ile Arg Arg Gly Lys Leu Tyr Ala Glu Ala
85 90 95

Lys Phe Ala Asp Gly Ser Val Thr Tyr Gly Lys Ala Xaa Xaa Xaa Xaa
100 105 110

Xaa Xaa Gln Ser Pro Lys Ala Met Asp Leu Phe Thr Leu Ala Trp Gln
115 120 125

Leu Ala Ala Asn Asp Ala Lys Leu Pro Pro Gly Leu Lys Ile Thr Asn
130 135 140

Gly Lys Lys Leu Tyr Ser Val Gly Gly Leu Asn Lys Ala Gly Thr Gly
145 150 155 160

Lys Tyr Ser Ile Gly Gly Val Glu Thr Glu Val Val Lys Tyr Arg Val
165 170 175

Arg Arg Gly Asp Asp Ala Val Met Tyr Phe Phe Ala Pro Ser Leu Asn
180 185 190

Asn Ile Pro Ala Gln Ile Gly Tyr Thr Asp Asp Gly Lys Thr Tyr Thr
195 200 205

Leu Lys Leu Lys Ser Val Gln Ile Asn Gly Gln Ala Ala Lys Pro
210 215 220

<210> 779

<211> 672

<212> DNA

<213> Neisseria gonorrhoeae

<400> 779

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cccgccacga	tgacatttga	acgcagcggc	aatgcttaca	aaatcgtttc	gacgattaaa	180
gtgccgctat	acaatatccg	tttcgaatcc	ggcggtagcg	ttgtcggcaa	taccctgcac	240

cctgcctact	ataaagacat	acgcaggggc	aaactgtatg	cggaagccaa	attcgccgac	300
ggcagcgtaa	cctacggcaa	agcgggcgag	agcaaaaccg	agcaaagccc	caaggctatg	360
gatttggtca	cgcttgctg	gcagttggcg	gcaaatagacg	cgaaactccc	cccgggtctg	420
aaaatcacca	acggcaaaaa	actttattcc	gtcggcgggc	tgaataaggc	gggtacggga	480
aaatacagca	taggcggcgt	ggaaaccgaa	gtcgtcaa	atcggtg	gcgcggcgac	540
gatacggtaa	cgtatttctt	cgcaccgtcc	ctgaacaata	ttccggcaca	aatcggtat	600
accgacgacg	gcaaaaccta	tacgtgaag	ctcaa	atcggtg	gcgcggcgac	660
gccaaaccgt	aa					672

<210> 780
 <211> 223
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 780

Met	Met	Lys	Thr	Phe	Lys	Asn	Ile	Phe	Ser	Ala	Ala	Ile	Leu	Ser	Ala	1	5	10	15
Ala	Leu	Pro	Cys	Ala	Tyr	Ala	Ala	Arg	Leu	Pro	Gln	Ser	Ala	Val	Leu	20	25	30	
His	Tyr	Ser	Gly	Ser	Tyr	Gly	Ile	Pro	Ala	Thr	Met	Thr	Phe	Glu	Arg	35	40	45	
Ser	Gly	Asn	Ala	Tyr	Lys	Ile	Val	Ser	Thr	Ile	Lys	Val	Pro	Leu	Tyr	50	55	60	
Asn	Ile	Arg	Phe	Glu	Ser	Gly	Gly	Thr	Val	Val	Gly	Asn	Thr	Leu	His	65	70	75	80
Pro	Ala	Tyr	Tyr	Lys	Asp	Ile	Arg	Arg	Gly	Lys	Leu	Tyr	Ala	Glu	Ala	85	90	95	
Lys	Phe	Ala	Asp	Gly	Ser	Val	Thr	Tyr	Gly	Lys	Ala	Gly	Glu	Ser	Lys	100	105	110	
Thr	Glu	Gln	Ser	Pro	Lys	Ala	Met	Asp	Leu	Phe	Thr	Leu	Ala	Trp	Gln	115	120	125	
Leu	Ala	Ala	Asn	Asp	Ala	Lys	Leu	Pro	Pro	Gly	Leu	Lys	Ile	Thr	Asn	130	135	140	
Gly	Lys	Lys	Leu	Tyr	Ser	Val	Gly	Gly	Leu	Asn	Lys	Ala	Gly	Thr	Gly	145	150	155	160
Lys	Tyr	Ser	Ile	Gly	Gly	Val	Glu	Thr	Glu	Val	Val	Lys	Tyr	Arg	Val	165	170	175	
Arg	Arg	Gly	Asp	Asp	Thr	Val	Thr	Tyr	Phe	Phe	Ala	Pro	Ser	Leu	Asn	180	185	190	
Asn	Ile	Pro	Ala	Gln	Ile	Gly	Tyr	Thr	Asp	Asp	Gly	Lys	Thr	Tyr	Thr	195	200	205	
Leu	Lys	Leu	Lys	Ser	Val	Gln	Ile	Asn	Gly	Gln	Ala	Ala	Lys	Pro	210	215	220		

<210> 781
 <211> 468
 <212> DNA
 <213> *Neisseria meningitidis*

<220>
 <221> misc_feature
 <222> (51)..(51)
 <223> N= Unknown

<400> 781
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 gccttgggtct ggctgggtttt cgcgctcggc gatactttga ctccgtttgc ggttgcggcg 120
 gtgctggcgt atgtattgga ccctttggtc gaatggttgc agaaaaaggg tttgaaccgt 180
 gcatccgctt cgatgtctgt gatgggtgtt tccttgattt tgttggtggc attattgttg 240
 attatcgtcc ctatgctggg cgggcagttc aacaatttgg catcgcgccct gcccgaatta 300
 atcggtttta tgcagaacac gctgctgccg tggttgaaaa atacaatcgg cggatatgtg 360
 gaaatcgatc aggcatttat tattgcgtgg cttcaggcgc atacgggaga gttgagcaac 420
 gcgcttaagg cgtgggtttcc cgttttgatg aggcaggggc gcaatatt 468

<210> 782
 <211> 156
 <212> PRT
 <213> *Neisseria meningitidis*

<220>
 <221> misc_feature
 <222> (17)..(17)
 <223> Xaa= any amino acid

<400> 782
 Met Tyr Arg Arg Lys Gly Arg Gly Ile Lys Pro Trp Met Gly Ala Gly
 1 5 10 15
 Xaa Ala Phe Ala Ala Leu Val Trp Leu Val Phe Ala Leu Gly Asp Thr
 20 25 30
 Leu Thr Pro Phe Ala Val Ala Ala Val Leu Ala Tyr Val Leu Asp Pro
 35 40 45
 Leu Val Glu Trp Leu Gln Lys Lys Gly Leu Asn Arg Ala Ser Ala Ser
 50 55 60
 Met Ser Val Met Val Phe Ser Leu Ile Leu Leu Ala Leu Leu Leu
 65 70 75 80
 Ile Ile Val Pro Met Leu Val Gly Gln Phe Asn Asn Leu Ala Ser Arg
 85 90 95
 Leu Pro Gln Leu Ile Gly Phe Met Gln Asn Thr Leu Leu Pro Trp Leu
 100 105 110
 Lys Asn Thr Ile Gly Gly Tyr Val Glu Ile Asp Gln Ala Ser Ile Ile
 115 120 125
 Ala Trp Leu Gln Ala His Thr Gly Glu Leu Ser Asn Ala Leu Lys Ala

130

135

140

Trp Phe Pro Val Leu Met Arg Gln Gly Gly Asn Ile
 145 150 155

<210> 783
 <211> 1071
 <212> DNA
 <213> *Neisseria meningitidis*

<400> 783
 atgtatcggg ggaagggcg gggcatcaag ccgtggatgg gtgccgggtgc ggcgtttgcc 60
 gccttggtct ggctggtttt cgcgctcggc gatactttga ctccgtttgc ggttgccggcg 120
 gtgctggcgt atgtattgga ccttttggtc gaatgggtgc agaaaaaggg tttgaaccgt 180
 gcatccgctt cgatgtctgt gatgggtgtt tccttgattt tgttggtggc attattgttg 240
 attatcgctc ctatgctggg cgggcagttc aacaatttgg catcgcgctt gcccgaatta 300
 atcgggtttta tgcagaacac gctgctgccg tggttgaaaa atacaatcgg cggatatgtg 360
 gaaatcgatc aggcattctat tattgctggg cttcaggcgc atacgggaga gttgagcaac 420
 gcgcttaagg cgtgggtttc cgttttgatg aggcaggcg gcaatattgt cagcagatc 480
 ggcaacctgc tgctgcttcc cttgctgctt tactatttcc tgctggattg gcagcgggtg 540
 tcgtgcggca ttgccaaact ggttccgagg cgttttgccg gtgcttatac gcgcattaca 600
 ggcaatttga acgaggtatt gggcgaattt ttgcgcgggc agcttctggt aatgctgatt 660
 atgggcttgg ttacgggttt gggattgggt ctggctcgggc tggattcggg gtttgccatc 720
 ggtatgcttg ccggtatttt ggtggttgct ccttatctcg gggcgtttac gggattgctg 780
 cttgccaccg tcgcgcctt gctccagttc gggtcgtgga acggcatcct atcggtttgg 840
 gcggtttttg ccgtaggaca gtttctcgaa agttttttca ttacgccgaa aatcgtggga 900
 gaccgatcgc ggctgtcgcc gttttgggtt atcttttcgc tgatggcggt cgggcagctg 960
 atgggctttg tcggaatgtt ggcgggattg cctttggccg ccgtaacctt ggtcttgctt 1020
 cgcgagggcg tgcagaaata ttttgccggc agtttttacc ggggcaggta g 1071

<210> 784
 <211> 356
 <212> PRT
 <213> *Neisseria meningitidis*

<400> 784
 Met Tyr Arg Arg Lys Gly Arg Gly Ile Lys Pro Trp Met Gly Ala Gly
 1 5 10 15
 Ala Ala Phe Ala Ala Leu Val Trp Leu Val Phe Ala Leu Gly Asp Thr
 20 25 30
 Leu Thr Pro Phe Ala Val Ala Ala Val Leu Ala Tyr Val Leu Asp Pro
 35 40 45
 Leu Val Glu Trp Leu Gln Lys Lys Gly Leu Asn Arg Ala Ser Ala Ser
 50 55 60
 Met Ser Val Met Val Phe Ser Leu Ile Leu Leu Leu Ala Leu Leu Leu
 65 70 75 80
 Ile Ile Val Pro Met Leu Val Gly Gln Phe Asn Asn Leu Ala Ser Arg
 85 90 95
 Leu Pro Gln Leu Ile Gly Phe Met Gln Asn Thr Leu Leu Pro Trp Leu
 100 105 110

Lys Asn Thr Ile Gly Gly Tyr Val Glu Ile Asp Gln Ala Ser Ile Ile
 115 120 125
 Ala Trp Leu Gln Ala His Thr Gly Glu Leu Ser Asn Ala Leu Lys Ala
 130 135 140
 Trp Phe Pro Val Leu Met Arg Gln Gly Gly Asn Ile Val Ser Ser Ile
 145 150 155 160
 Gly Asn Leu Leu Leu Leu Pro Leu Leu Leu Tyr Tyr Phe Leu Leu Asp
 165 170 175
 Trp Gln Arg Trp Ser Cys Gly Ile Ala Lys Leu Val Pro Arg Arg Phe
 180 185 190
 Ala Gly Ala Tyr Thr Arg Ile Thr Gly Asn Leu Asn Glu Val Leu Gly
 195 200 205
 Glu Phe Leu Arg Gly Gln Leu Leu Val Met Leu Ile Met Gly Leu Val
 210 215 220
 Tyr Gly Leu Gly Leu Val Leu Val Gly Leu Asp Ser Gly Phe Ala Ile
 225 230 235 240
 Gly Met Leu Ala Gly Ile Leu Val Phe Val Pro Tyr Leu Gly Ala Phe
 245 250 255
 Thr Gly Leu Leu Leu Ala Thr Val Ala Ala Leu Leu Gln Phe Gly Ser
 260 265 270
 Trp Asn Gly Ile Leu Ser Val Trp Ala Val Phe Ala Val Gly Gln Phe
 275 280 285
 Leu Glu Ser Phe Phe Ile Thr Pro Lys Ile Val Gly Asp Arg Ile Gly
 290 295 300
 Leu Ser Pro Phe Trp Val Ile Phe Ser Leu Met Ala Phe Gly Gln Leu
 305 310 315 320
 Met Gly Phe Val Gly Met Leu Ala Gly Leu Pro Leu Ala Ala Val Thr
 325 330 335
 Leu Val Leu Leu Arg Glu Gly Val Gln Lys Tyr Phe Ala Gly Ser Phe
 340 345 350
 Tyr Arg Gly Arg
 355

<210> 785
 <211> 1071
 <212> DNA
 <213> Neisseria meningitidis

<400> 785
 atgtatcgga ggaaagggcg gggcatcaag ccgtggatgg atgccggtgc ggcgtttgcc 60
 gccttggtct ggctggtttt cgcgctcggc gatactttga ctccgtttgc ggttgcggcg 120

gtgctggcgt	atgtattgga	ccctttggtc	gaatgggtgc	agaaaaaggg	tttgaaccgt	180
gcatccgctt	cgatgtctgt	gatgggtgtt	tccttgattt	tggtgttgcc	attattgttg	240
attattgtcc	ctatgctggg	cgggcagttc	aacaatttgg	catcgcgctt	gccccaat	300
atcggtttta	tgcagaacac	gctgctgccg	tggttgaaaa	atacaatcgg	cggatatgtg	360
gaaatcgatc	aggcatctat	tattgctggg	cttcaggcgc	atacggggcg	gttgagcaac	420
gcgcttaagg	cgtgggttcc	cgttttgatg	aggcagggcg	gcaatattgt	cagcagtatc	480
ggcaacctgc	tgtgcttcc	cttgctgctt	tactatttcc	tgctggattg	gcagcgggtg	540
tcgtgcggca	ttgccaaact	ggttccgagg	cgttttgccg	gtgcttatac	gcgcattaca	600
ggcaatttga	acgaggtatt	gggcgaattt	ttgcgcgggc	agcttctggt	gatgctgatt	660
atgggttttg	tttacggctt	gggggttggtg	ctggctcggc	tggttcggg	gtttgcaatc	720
ggtatgggtg	ccggtatttt	ggtttttgtt	ccctatttgg	gcgcgtttac	aggactgtg	780
ctggcaaccg	tcgcgcctt	gtccagttc	ggttcgtgga	acggcatctt	ggctgtttgg	840
gcggtttttg	ccgtaggaca	gtttctcgaa	agttttttca	ttacgccgaa	aatcgtggga	900
gaccgtatcg	gcctgtcgcc	gttttggtt	atcttttcgc	tgatggcggt	cgggcagctg	960
atgggctttg	tcggaatgtt	ggccggattg	cccttgcccg	ccgtaacctt	ggtcttgctt	1020
cgcgagggcg	tgcagaaata	ttttgccggc	agtttttacc	ggggcaggta	g	1071

<210> 786

<211> 356

<212> PRT

<213> *Neisseria meningitidis*

<400> 786

Met	Tyr	Arg	Arg	Lys	Gly	Arg	Gly	Ile	Lys	Pro	Trp	Met	Asp	Ala	Gly	1	5	10	15
Ala	Ala	Phe	Ala	Ala	Leu	Val	Trp	Leu	Val	Phe	Ala	Leu	Gly	Asp	Thr	20	25	30	
Leu	Thr	Pro	Phe	Ala	Val	Ala	Ala	Val	Leu	Ala	Tyr	Val	Leu	Asp	Pro	35	40	45	
Leu	Val	Glu	Trp	Leu	Gln	Lys	Lys	Gly	Leu	Asn	Arg	Ala	Ser	Ala	Ser	50	55	60	
Met	Ser	Val	Met	Val	Phe	Ser	Leu	Ile	Leu	Leu	Leu	Ala	Leu	Leu	Leu	65	70	75	80
Ile	Ile	Val	Pro	Met	Leu	Val	Gly	Gln	Phe	Asn	Asn	Leu	Ala	Ser	Arg	85	90	95	
Leu	Pro	Gln	Leu	Ile	Gly	Phe	Met	Gln	Asn	Thr	Leu	Leu	Pro	Trp	Leu	100	105	110	
Lys	Asn	Thr	Ile	Gly	Gly	Tyr	Val	Glu	Ile	Asp	Gln	Ala	Ser	Ile	Ile	115	120	125	
Ala	Trp	Leu	Gln	Ala	His	Thr	Gly	Glu	Leu	Ser	Asn	Ala	Leu	Lys	Ala	130	135	140	
Trp	Phe	Pro	Val	Leu	Met	Arg	Gln	Gly	Gly	Asn	Ile	Val	Ser	Ser	Ile	145	150	155	160
Gly	Asn	Leu	Leu	Leu	Leu	Pro	Leu	Leu	Leu	Tyr	Tyr	Phe	Leu	Leu	Asp	165	170	175	

Trp Gln Arg Trp Ser Cys Gly Ile Ala Lys Leu Val Pro Arg Arg Phe
 180 185 190
 Ala Gly Ala Tyr Thr Arg Ile Thr Gly Asn Leu Asn Glu Val Leu Gly
 195 200 205
 Glu Phe Leu Arg Gly Gln Leu Leu Val Met Leu Ile Met Gly Leu Val
 210 215 220
 Tyr Gly Leu Gly Leu Val Leu Val Gly Leu Asp Ser Gly Phe Ala Ile
 225 230 235 240
 Gly Met Val Ala Gly Ile Leu Val Phe Val Pro Tyr Leu Gly Ala Phe
 245 250 255
 Thr Gly Leu Leu Leu Ala Thr Val Ala Ala Leu Leu Gln Phe Gly Ser
 260 265 270
 Trp Asn Gly Ile Leu Ala Val Trp Ala Val Phe Ala Val Gly Gln Phe
 275 280 285
 Leu Glu Ser Phe Phe Ile Thr Pro Lys Ile Val Gly Asp Arg Ile Gly
 290 295 300
 Leu Ser Pro Phe Trp Val Ile Phe Ser Leu Met Ala Phe Gly Gln Leu
 305 310 315 320
 Met Gly Phe Val Gly Met Leu Ala Gly Leu Pro Leu Ala Ala Val Thr
 325 330 335
 Leu Val Leu Leu Arg Glu Gly Val Gln Lys Tyr Phe Ala Gly Ser Phe
 340 345 350
 Tyr Arg Gly Arg
 355

<210> 787
 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

<220>
 <221> misc_feature
 <222> (1)..(8)
 <223> N = Unknown

<400> 787
 nnnnnnnnn

8

<210> 788
 <211> 253
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 788
 Met Tyr Arg Arg Lys Gly Arg Gly Ile Lys Pro Trp Met Gly Ala Gly

1	5	10	15
Ala Ala Phe	Ala Ala Leu Val	Trp Leu Val Tyr	Ala Leu Gly Asp Thr
20		25	30
Leu Thr Pro	Phe Ala Val Ala	Ala Val Leu Ala	Tyr Val Leu Asp Pro
35		40	45
Leu Val Glu	Trp Leu Gln Lys	Lys Gly Leu Asn	Arg Ala Ser Ala Ser
50		55	60
Met Ser Val	Met Val Phe Ser	Leu Ile Leu Leu	Leu Ala Leu Leu Leu
65	70	75	80
Ile Ile Val	Pro Met Leu Val	Gly Gln Phe Asn	Asn Leu Ala Ser Arg
	85	90	95
Leu Pro Gln	Leu Ile Gly Phe	Met Gln Asn Thr	Leu Leu Pro Trp Leu
	100	105	110
Lys Asn Thr	Ile Gly Gly Tyr	Val Glu Ile Asp	Gln Ala Ser Ile Ile
	115	120	125
Ala Trp Phe	Gln Ala His Thr	Gly Glu Leu Ser	Asn Ala Leu Lys Ala
	130	135	140
Trp Phe Pro	Val Leu Met Lys	Gln Gly Gly Asn	Ile Val Ser Thr Ile
145	150	155	160
Gly Asn Leu	Leu Leu Pro Pro	Leu Leu Leu Tyr	Tyr Phe Leu Leu Asp
	165	170	175
Trp His Arg	Trp Ser Cys Gly	Ile Pro Lys Leu	Val Pro Arg Arg Phe
	180	185	190
Ala Gly Ala	Tyr Thr Arg Ile	Thr Gly Asn Leu	Asn Lys Val Trp Gly
	195	200	205
Lys Phe Leu	Arg Gly Gln Leu	Leu Gly Glu Thr	Glu Arg Gly Ala Val
	210	215	220
Val Cys Arg	Val Gly Arg Glu	Cys Trp Glu Gly	Gly Gly Ala Arg Ser
225	230	235	240
Arg Pro Ser	Asp Asp Gly Trp	Pro Arg Trp Gly	Gly Gly Gly
	245	250	

<210> 789

<211> 1071

<212> DNA

<213> Neisseria gonorrhoeae

<400> 789

atgtatcgga	gaaaaggacg	gggcatcaag	ccgtggatgg	gtgccggcgc	ggcgtttgcc	60
gccttggtct	ggctggttta	cgcgtcggc	gatactttga	ctccgtttgc	ggttgcggcg	120
gtgctggcgt	atgtgttga	ccctttggtc	gaatggttgc	agaaaaagg	tttgaaccgt	180

gcacccgctt	cgatgtctgt	gatgggtgtt	tccttgattt	tggtgttggc	attattgttg	240
attattgtcc	ctatgctggt	cgggcagttc	aataatttgg	catctcgctt	gccccaat	300
atcggtttta	tgcagaacac	gctgctgccc	tggttgaaaa	atacaatcgg	cggatatgtg	360
gaaatcgatc	aggcatctat	tattgctgtg	tttcaggcgc	atacgggcga	gttgagcaac	420
gcgcttaagg	cgtgggtttcc	cgttttgatg	aaacagggcg	gcaatattgt	cagcagtatc	480
ggcaacctgc	tgctgccgcc	cttgctgctt	tactatttcc	tgctggattg	gcagcgggtg	540
tcgtgcggca	tcgccaaact	ggttccgagg	cgttttgccg	gtgcttatac	gcgcattacg	600
ggtaatttga	acgagggtatt	gggcgaattt	ttgcgcggtc	agcttctggt	gatgctgatt	660
atgggcttgg	tttacgggtt	gggattgatg	ctagtcggac	tggattcggg	atttgccatc	720
ggatatggtg	cgggtatttt	ggtgtttgtc	ccctatttgg	gtgcgtttac	gggattgctg	780
cttgccactg	ttgcagcctt	gctccagttc	ggttcgtgga	acggaatctt	ggctgtttgg	840
gcggtttttg	ccgtcgggtca	gtttctcgaa	agttttttca	ttacgccgaa	aattgtagga	900
gaccgtatcg	gcctgtcgcc	gttttggtt	atcttttcgc	tgatggcggt	cggagagctg	960
atgggctttg	tcggaatgtt	ggccggattg	cctttggccg	ccgtaacctt	ggtcttgctt	1020
cgcgagggcg	cgcagaaata	ttttgccggc	agtttttacc	ggggcaggta	g	1071

<210> 790

<211> 356

<212> PRT

<213> Neisseria gonorrhoeae

<400> 790

Met	Tyr	Arg	Arg	Lys	Gly	Arg	Gly	Ile	Lys	Pro	Trp	Met	Gly	Ala	Gly
1				5				10						15	
Ala	Ala	Phe	Ala	Ala	Leu	Val	Trp	Leu	Val	Tyr	Ala	Leu	Gly	Asp	Thr
			20					25					30		
Leu	Thr	Pro	Phe	Ala	Val	Ala	Ala	Val	Leu	Ala	Tyr	Val	Leu	Asp	Pro
		35					40					45			
Leu	Val	Glu	Trp	Leu	Gln	Lys	Lys	Gly	Leu	Asn	Arg	Ala	Ser	Ala	Ser
	50					55					60				
Met	Ser	Val	Met	Val	Phe	Ser	Leu	Ile	Leu	Leu	Leu	Ala	Leu	Leu	Leu
65					70				75					80	
Ile	Ile	Val	Pro	Met	Leu	Val	Gly	Gln	Phe	Asn	Asn	Leu	Ala	Ser	Arg
			85					90						95	
Leu	Pro	Gln	Leu	Ile	Gly	Phe	Met	Gln	Asn	Thr	Leu	Leu	Pro	Trp	Leu
		100						105					110		
Lys	Asn	Thr	Ile	Gly	Gly	Tyr	Val	Glu	Ile	Asp	Gln	Ala	Ser	Ile	Ile
		115					120					125			
Ala	Trp	Phe	Gln	Ala	His	Thr	Gly	Glu	Leu	Ser	Asn	Ala	Leu	Lys	Ala
	130					135					140				
Trp	Phe	Pro	Val	Leu	Met	Lys	Gln	Gly	Gly	Asn	Ile	Val	Ser	Ser	Ile
145					150					155					160
Gly	Asn	Leu	Leu	Leu	Pro	Pro	Leu	Leu	Leu	Tyr	Tyr	Phe	Leu	Leu	Asp
			165					170						175	
Trp	Gln	Arg	Trp	Ser	Cys	Gly	Ile	Ala	Lys	Leu	Val	Pro	Arg	Arg	Phe

180	185	190
Ala Gly Ala Tyr Thr Arg Ile Thr Gly Asn Leu Asn Glu Val Leu Gly		
195	200	205
Glu Phe Leu Arg Gly Gln Leu Leu Val Met Leu Ile Met Gly Leu Val		
210	215	220
Tyr Gly Leu Gly Leu Met Leu Val Gly Leu Asp Ser Gly Phe Ala Ile		
225	230	235
Gly Met Val Ala Gly Ile Leu Val Phe Val Pro Tyr Leu Gly Ala Phe		
245	250	255
Thr Gly Leu Leu Leu Ala Thr Val Ala Ala Leu Leu Gln Phe Gly Ser		
260	265	270
Trp Asn Gly Ile Leu Ala Val Trp Ala Val Phe Ala Val Gly Gln Phe		
275	280	285
Leu Glu Ser Phe Phe Ile Thr Pro Lys Ile Val Gly Asp Arg Ile Gly		
290	295	300
Leu Ser Pro Phe Trp Val Ile Phe Ser Leu Met Ala Phe Gly Glu Leu		
305	310	315
Met Gly Phe Val Gly Met Leu Ala Gly Leu Pro Leu Ala Ala Val Thr		
325	330	335
Leu Val Leu Leu Arg Glu Gly Ala Gln Lys Tyr Phe Ala Gly Ser Phe		
340	345	350
Tyr Arg Gly Arg		
355		

<210> 791
 <211> 546
 <212> DNA
 <213> Neisseria meningitidis

<400> 791	
actgcttttt cggcggcgct gcgcttgagt ccatcatgac tcgtcatatt tttgtccttt	60
gggaaaccgt atcaacaaac agccgccatc ttaacatttt tttgcacgtc ctgcccgcgc	120
cgttcaaagt cgtaccagca ataccgcgc ctgcgcctct atgccttcca tccgcccag	180
atagccgagt ttttcgttg ttttgcttt gatgttgacg cacgaaatgt ctatgccc	240
atcggcgcg atgttgacac gcatttgcg aatgtgcggc gcgagtgtgg gtttctgtgc	300
aatcacggtc gtatcgacat tgaccgctg ccaaccctgc gcctgaacgc tttgatacgc	360
cgcacgcaaa aggacgcggc tgccgcac tttgaactct gcggcggtgt cggggaaatg	420
gctgccgata tcgcccacac ctgccgcacc gagcagcgcg tcggtaacgg cgtgcagcag	480
cgcacggca tcggagtgtc cgagcagccc tttttcaa atggatttcaa ctccgccaag	540
tatcag	546

<210> 792
 <211> 182
 <212> PRT
 <213> Neisseria meningitidis

<220>

<221> misc_feature

<222> (13)..(13)

<223> Xaa= any amino acid

<400> 792

Thr Ala Phe Ser Ala Ala Leu Arg Leu Ser Pro Ser Xaa Leu Val Ile
1 5 10 15

Phe Leu Ser Phe Gly Lys Pro Tyr Gln Gln Thr Ala Ala Ile Leu Thr
20 25 30

Phe Phe Cys Thr Ser Cys Pro Pro Arg Ser Asn Ala Tyr Gln Gln Tyr
35 40 45

Arg Arg Leu Arg Leu Tyr Ala Phe His Pro Pro Glu Ile Ala Glu Phe
50 55 60

Phe Val Gly Phe Ala Phe Asp Val Asp Ala Arg Asn Val Tyr Ala Gln
65 70 75 80

Ile Gly Gly Asp Val Gly Thr His Leu Arg Asn Val Arg Arg Glu Cys
85 90 95

Gly Phe Leu Cys Asn His Gly Arg Ile Asp Ile Asp Arg Leu Pro Thr
100 105 110

Leu Arg Leu Asn Ala Leu Ile Arg Arg Thr Gln Lys Asp Ala Ala Val
115 120 125

Arg Ile Phe Glu Leu Cys Gly Gly Val Gly Glu Met Ala Ala Asp Ile
130 135 140

Ala Gln Thr Cys Arg Thr Glu Gln Arg Val Gly Asn Gly Val Gln Gln
145 150 155 160

Arg Ile Gly Ile Gly Val Ser Glu Gln Pro Phe Phe Lys Trp Asp Phe
165 170 175

Asn Ser Ala Lys Tyr Gln
180

<210> 793

<211> 771

<212> DNA

<213> Neisseria meningitidis

<400> 793

atatcg	tact	gggcaagcag	ttcgccggat	tttttggaag	tagataccgc	gcctttgatt	60
tttttgccgc	tcttacc	caa	ggcttcgatg	aaaaagtga	tggtcgagcc	ggtaccgatg	120
ccgatatatt	cattttcggg	tacgaattcg	actgcttttt	cggcggcgat	gcgcttgagt		180
tcgtcttgtg	tcgtcatatt	tttgtccttt	gggaaaccgt	atcaacaaac	agccgccatc		240
ttaacatttt	tttgacgtc	ctgcccgcgc	cgttcaa	atg	cgtaccagca	ataccgccgc	300
ctgcgcctct	atgccttcca	tccgcccag	atagccgagt	ttttcg	tttg	ttttgccttt	360
gatgttgacg	cacgaaatgt	ctatgccaa	atcggcggcg	atg	ttggcac	gcatttg	420
aatgtgcggc	gcgagtttgg	gtttctgtgc	aatcacggtc	gtatcgacat	tgaccgcctg		480

ccaaccctgc	gcctgaacgc	tttgatacgc	cgcacgcaaa	aggacgcggc	tgtccgcac	540
tttgaactct	gcggcggtgt	cggggaaatg	gctgccgata	tcgcccacac	ctgccgcacc	600
gagcagcgcg	tcggtaacgg	cgtgcagcag	cgcacgcgca	tcggagtgtc	cgagcagccc	660
tttttcaaat	gggatttcaa	ctccgccaa	tatcagcttt	ctgccttcgg	tcagttgggtg	720
gacatcgtag	ccctgtccga	tacggatggt	cgtcatcggt	tgtgttcctg	a	771

<210> 794
 <211> 256
 <212> PRT
 <213> *Neisseria meningitidis*

<400> 794

Ile	Ser	Tyr	Trp	Ala	Ser	Ser	Ser	Pro	Asp	Phe	Leu	Glu	Val	Asp	Thr
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Ala	Pro	Leu	Ile	Phe	Leu	Pro	Leu	Leu	Pro	Lys	Ala	Ser	Met	Lys	Lys
			20					25					30		
Leu	Met	Val	Glu	Pro	Val	Pro	Met	Pro	Ile	Tyr	Ser	Phe	Ser	Gly	Thr
	35						40					45			
Asn	Ser	Thr	Ala	Phe	Ser	Ala	Ala	Met	Arg	Leu	Ser	Ser	Ser	Cys	Val
50						55					60				
Val	Ile	Phe	Leu	Ser	Phe	Gly	Lys	Pro	Tyr	Gln	Gln	Thr	Ala	Ala	Ile
65					70					75					80
Leu	Thr	Phe	Phe	Cys	Thr	Ser	Cys	Pro	Pro	Arg	Ser	Asn	Ala	Tyr	Gln
				85					90					95	
Gln	Tyr	Arg	Arg	Leu	Arg	Leu	Tyr	Ala	Phe	His	Pro	Pro	Glu	Ile	Ala
			100					105					110		
Glu	Phe	Phe	Val	Gly	Phe	Ala	Phe	Asp	Val	Asp	Ala	Arg	Asn	Val	Tyr
	115						120					125			
Ala	Gln	Ile	Gly	Gly	Asp	Val	Gly	Thr	His	Leu	Arg	Asn	Val	Arg	Arg
	130					135					140				
Glu	Phe	Gly	Phe	Leu	Cys	Asn	His	Gly	Arg	Ile	Asp	Ile	Asp	Arg	Leu
145					150					155					160
Pro	Thr	Leu	Arg	Leu	Asn	Ala	Leu	Ile	Arg	Arg	Thr	Gln	Lys	Asp	Ala
				165					170					175	
Ala	Val	Arg	Ile	Phe	Glu	Leu	Cys	Gly	Gly	Val	Gly	Glu	Met	Ala	Ala
			180					185					190		
Asp	Ile	Ala	Gln	Thr	Cys	Arg	Thr	Glu	Gln	Arg	Val	Gly	Asn	Gly	Val
	195						200					205			
Gln	Gln	Arg	Ile	Gly	Ile	Gly	Val	Ser	Glu	Gln	Pro	Phe	Phe	Lys	Trp
	210					215					220				
Asp	Phe	Asn	Ser	Ala	Lys	Tyr	Gln	Leu	Ser	Ala	Phe	Gly	Gln	Leu	Val
225					230					235					240

Asp Ile Val Ala Leu Ser Asp Thr Asp Val Arg His Arg Leu Cys Ser
245 250 255

<210> 795
<211> 771
<212> DNA
<213> Neisseria meningitidis

<220>
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<222> (156)..(156)
<223> N= Unknown

<220>
<221> misc_feature
<222> (253)..(255)
<223> N= Unknown

<220>
<221> misc_feature
<222> (363)..(363)
<223> N= Unknown

<400> 795
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tttttgccgc tcttacccaa ggcttcgatg aaaaagttga tggtcgaacc ggtaccgatg 120
ccgatgtatt cgttttcggg tacgaattcg actgcntttt cggcggcgat gcgcttgagt 180
tcgtcttggt tcgtcatatt tttgtccttt gggaaaccgt atcaacaaac agccgccatc 240
ttaacatttt tttnnacgtc ctgcccgcgc cgttcaaata cttaccagca ataccgccgc 300
ctgcgactct atgccttcca tgcgcccag ataaccgatg ttttcgttgg ttttgccttt 360
gangttgacg cagcaaatgt ctatgcccac atcggcggcg atgttggcac gcatttgagg 420
aatatgcggc gcgagtttgg gtttctgtgc aatcacggtc gtatcgacat tgaccgcctg 480
ccaaccctgc gcctgaacgc tttgatacgc cgcacgcaaa aggacgcggc tgtccgcac 540
tttgaactct gcggcggtgt cggggaaatg gctgccgata tcgcccacac ctgccgcacc 600
gagcagcgcg tcggtaacgg cgtgcagcag cgcacggca tcggagtgtc cgagcagccc 660
tttttcaaat gggatttcaa ctccgccaa tatcagcttt ctgccttcgg tcagttgggtg 720
gacatcgtag ccctgtccga tacggatggt cgtcatcggt tgtgttcctg a 771

<210> 796
<211> 256
<212> PRT
<213> Neisseria meningitidis

<220>
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<222> (85)..(85)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (121)..(121)
<223> Xaa= any amino acid

<400> 796
Ile Ser Tyr Trp Ala Ser Ser Ser Leu Asp Phe Leu Glu Val Asp Thr
1 5 10 15

Ala Pro Leu Ile Phe Leu Pro Leu Leu Pro Lys Ala Ser Met Lys Lys
 20 25 30
 Leu Met Val Glu Pro Val Pro Met Pro Met Tyr Ser Phe Ser Gly Thr
 35 40 45
 Asn Ser Thr Ala Phe Ser Ala Ala Met Arg Leu Ser Ser Ser Cys Val
 50 55 60
 Val Ile Phe Leu Ser Phe Gly Lys Pro Tyr Gln Gln Thr Ala Ala Ile
 65 70 75 80
 Leu Thr Phe Phe Xaa Thr Ser Cys Pro Pro Arg Ser Asn Pro Tyr Gln
 85 90 95
 Gln Tyr Arg Arg Leu Arg Leu Tyr Ala Phe His Ala Pro Glu Ile Thr
 100 105 110
 Glu Phe Phe Val Gly Phe Ala Phe Xaa Val Asp Ala Arg Asn Val Tyr
 115 120 125
 Ala Gln Ile Gly Gly Asp Val Gly Thr His Leu Arg Asn Met Arg Arg
 130 135 140
 Glu Phe Gly Phe Leu Cys Asn His Gly Arg Ile Asp Ile Asp Arg Leu
 145 150 155 160
 Pro Thr Leu Arg Leu Asn Ala Leu Ile Arg Arg Thr Gln Lys Asp Ala
 165 170 175
 Ala Val Arg Ile Phe Glu Leu Cys Gly Gly Val Gly Glu Met Ala Ala
 180 185 190
 Asp Ile Ala Gln Thr Cys Arg Thr Glu Gln Arg Val Gly Asn Gly Val
 195 200 205
 Gln Gln Arg Ile Gly Ile Gly Val Ser Glu Gln Pro Phe Phe Lys Trp
 210 215 220
 Asp Phe Asn Ser Ala Lys Tyr Gln Leu Ser Ala Phe Gly Gln Leu Val
 225 230 235 240
 Asp Ile Val Ala Leu Ser Asp Thr Asp Val Arg His Arg Leu Cys Ser
 245 250 255

<210> 797
 <211> 771
 <212> DNA
 <213> *Neisseria gonorrhoeae*

<400> 797
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 tttttaccgc ttttgcccaa ggcttcgatg aagaaattga tggtcgaacc ggtaccgatg 120
 ccgatgtatt cgttttcggg tacgaattcg actgctttt cggcggcgat gcgcttgagt 180
 tcgtcttgcg tcgtcatatt tttatccttt gggaaaccct atcaacaaac agccgccatc 240
 ttaacatttt tttgcacgct ctggccgcgc cgttcaaate cgtaccagca ataccgccgc 300

ctgcgctct	atgccttcca	tccgcccag	atagccgagt	ttttcggttg	ttttgccttt	360
gatattgacg	cacgaaatat	cgatacccaa	atcggcggcg	atgttggcac	gcatttgcg	420
aatgtgcggt	gcgagtttg	gtttctgtgc	aatcacggtc	gtatcgacat	tgaccacctg	480
ccaaccctgc	gcctgaacgc	tttgatacgc	cgcacgcaaa	aggacgcggc	tgtccgcac	540
tttgaactct	gcggcggtgt	cgggaaaatg	gctgccgatg	tcgcccacac	ctgccgcacc	600
gagcagcgcg	tcggtaacgg	cgtgcagcag	cgcgtcggca	tccgaatgcc	cgagcagccc	660
tttttcaa	gggatttcaa	ctccgccaag	tatcagcttt	ctgccttcgg	tcaattggtg	720
gacatcgtag	ccctgtccga	tacggatatt	cgtcatcggt	tgtgttctg	a	771

<210> 798

<211> 256

<212> PRT

<213> Neisseria gonorrhoeae

<400> 798

Met	Ser	Tyr	Arg	Ala	Ser	Ser	Ser	Pro	Asp	Phe	Leu	Glu	Val	Glu	Thr
1				5				10						15	
Ala	Pro	Leu	Ile	Phe	Leu	Pro	Leu	Leu	Pro	Lys	Ala	Ser	Met	Lys	Lys
			20					25					30		
Leu	Met	Val	Glu	Pro	Val	Pro	Met	Pro	Met	Tyr	Ser	Phe	Ser	Gly	Thr
		35					40					45			
Asn	Ser	Thr	Ala	Phe	Ser	Ala	Ala	Met	Arg	Leu	Ser	Ser	Ser	Cys	Val
	50					55					60				
Val	Ile	Phe	Leu	Ser	Phe	Gly	Lys	Pro	Tyr	Gln	Gln	Thr	Ala	Ala	Ile
65					70					75					80
Leu	Thr	Phe	Phe	Cys	Thr	Ser	Trp	Pro	Pro	Arg	Ser	Asn	Pro	Tyr	Gln
			85					90						95	
Gln	Tyr	Arg	Arg	Leu	Arg	Leu	Tyr	Ala	Phe	His	Pro	Pro	Glu	Ile	Ala
			100					105					110		
Glu	Phe	Phe	Val	Gly	Phe	Ala	Phe	Asp	Ile	Asp	Ala	Arg	Asn	Ile	Asp
	115					120						125			
Thr	Gln	Ile	Gly	Gly	Asp	Val	Gly	Thr	His	Leu	Arg	Asn	Val	Arg	Cys
	130					135					140				
Glu	Phe	Gly	Phe	Leu	Cys	Asn	His	Gly	Arg	Ile	Asp	Ile	Asp	His	Leu
145					150					155					160
Pro	Thr	Leu	Arg	Leu	Asn	Ala	Leu	Ile	Arg	Arg	Thr	Gln	Lys	Asp	Ala
				165					170					175	
Ala	Val	Arg	Ile	Phe	Glu	Leu	Cys	Gly	Gly	Val	Gly	Lys	Met	Ala	Ala
			180					185					190		
Asp	Val	Ala	Gln	Thr	Cys	Arg	Thr	Glu	Gln	Arg	Val	Gly	Asn	Gly	Val
	195						200					205			
Gln	Gln	Arg	Val	Gly	Ile	Arg	Met	Pro	Glu	Gln	Pro	Phe	Phe	Lys	Trp
	210					215					220				

Asp Phe Asn Ser Ala Lys Tyr Gln Leu Ser Ala Phe Gly Gln Leu Val
 225 230 235 240

Asp Ile Val Ala Leu Ser Asp Thr Asp Ile Arg His Arg Leu Cys Ser
 245 250 255

<210> 799
 <211> 197
 <212> DNA
 <213> Neisseria meningitidis

<400> 799
 gccggcgcca gtgcgaacaa catttccgcg cgttttgcmg aaacaccmgt cgctgtcagc 60
 gttaccctga tcggcacmgt acttgccmgt atgctgcccg ttaccgaata tgaaaacttc 120
 ctgctgctta tcggctcmgt atttgcmcmg atggggcmga ttttgattgc cgactttttc 180
 gtcttgaaac ggcgtga 197

<210> 800
 <211> 64
 <212> PRT
 <213> Neisseria meningitidis

<400> 800
 Ala Gly Ala Ser Ala Asn Asn Ile Ser Ala Arg Phe Ala Glu Thr Pro
 1 5 10 15

Val Ala Val Ser Val Thr Leu Ile Gly Thr Val Leu Ala Val Met Leu
 20 25 30

Pro Val Thr Glu Tyr Glu Asn Phe Leu Leu Leu Ile Gly Ser Val Phe
 35 40 45

Ala Pro Met Gly Gly Phe Asp Cys Arg Leu Phe Arg Leu Glu Thr Ala
 50 55 60

<210> 801
 <211> 1224
 <212> DNA
 <213> Neisseria meningitidis

<400> 801
 atgtcgggca atgcctcctc tccttcatct tcctccgcca tcgggctgat ttggttcggc 60
 gcggcggtat cgattgccga aatcagcacg ggtacgctgc ttgcgccttt gggctggcag 120
 cgcggtcttg cggtcttact tttgggtcat gccgtcggcg gcgcgctgtt ttttgcmcmg 180
 gcgtatatcg gcgactgac cggacgcagc tcgatggaaa gcgtgcgcct gtcgttcggc 240
 aaacgcggtt cagtgcgtgt ttccgtggcg aatatgctgc aactggccgg ctggacggcg 300
 gtgatgattt acgccggcgc aacggtcagc tcgcctttgg gcaaagtgtt gtgggacggc 360
 gaatcttttg tctggtgggc attggcaaac ggcgcgctga ttgtgctgtg gctggttttc 420
 ggcgcacgca aaacaggcgg gctgaaaacc gtttcgatgc tgctgatgct gttggcggtt 480
 ctgtggctga gtgccgaagt cttttccacg gcaggcagca ccgccgcaca ggtttcagac 540
 ggcattgagtt tcggaacggc agtcgagctg tccgccgtga tgccgctttc ctggctgccg 600
 cttgccgcmg actacacmcm ccacgcgcgc cgcctgcttg cggcaaccct gacggcaacg 660
 ctcgcctaca cgctgaccgg ctgctggatg tatgccttg gtttggcagc ggcgttgctt 720
 accggagaaa ccgacgtggc aaaaatcctg ctggggcmag gtttgggtgc ggcaggcatt 780
 ttggcggtcg tcctctccac cgttaccaca acgtttctcg atgcctattc cgcggcmcmg 840
 agtgccaaca acatttccgc gcgttttgcm gaaacaccmgt tcgctgtcmg cgttaccctg 900

atcggcacgg	tacttgccgt	catgctgccc	gttaccgaat	atgaaaactt	cctgctgctt	960
atcggtcgg	tatttgccc	gatggcggcg	gttttgattg	ccgacttttt	cgtcttgaaa	1020
cggcgtgagg	agattgaagg	ctttgacttt	gccggactgg	ttctgtggct	tgccgggcttc	1080
atcctctacc	gcttctctgt	ctcgtccggc	tgggaaagca	gcatcggtct	gaccgcccc	1140
gtaatgtctg	ccgttgccat	tgccaccgta	tcggtacgcc	ttttctttaa	aaaaacccaa	1200
tctttacaaa	ggaacccgtc	atga				1224

<210> 802
 <211> 407
 <212> PRT
 <213> Neisseria meningitidis

<400> 802
 Met Ser Gly Asn Ala Ser Ser Pro Ser Ser Ser Ser Ala Ile Gly Leu
 1 5 10 15
 Ile Trp Phe Gly Ala Ala Val Ser Ile Ala Glu Ile Ser Thr Gly Thr
 20 25 30
 Leu Leu Ala Pro Leu Gly Trp Gln Arg Gly Leu Ala Ala Leu Leu Leu
 35 40 45
 Gly His Ala Val Gly Gly Ala Leu Phe Phe Ala Ala Ala Tyr Ile Gly
 50 55 60
 Ala Leu Thr Gly Arg Ser Ser Met Glu Ser Val Arg Leu Ser Phe Gly
 65 70 75 80
 Lys Arg Gly Ser Val Leu Phe Ser Val Ala Asn Met Leu Gln Leu Ala
 85 90 95
 Gly Trp Thr Ala Val Met Ile Tyr Ala Gly Ala Thr Val Ser Ser Ala
 100 105 110
 Leu Gly Lys Val Leu Trp Asp Gly Glu Ser Phe Val Trp Trp Ala Leu
 115 120 125
 Ala Asn Gly Ala Leu Ile Val Leu Trp Leu Val Phe Gly Ala Arg Lys
 130 135 140
 Thr Gly Gly Leu Lys Thr Val Ser Met Leu Leu Met Leu Leu Ala Val
 145 150 155 160
 Leu Trp Leu Ser Ala Glu Val Phe Ser Thr Ala Gly Ser Thr Ala Ala
 165 170 175
 Gln Val Ser Asp Gly Met Ser Phe Gly Thr Ala Val Glu Leu Ser Ala
 180 185 190
 Val Met Pro Leu Ser Trp Leu Pro Leu Ala Ala Asp Tyr Thr Arg His
 195 200 205
 Ala Arg Arg Pro Phe Ala Ala Thr Leu Thr Ala Thr Leu Ala Tyr Thr
 210 215 220
 Leu Thr Gly Cys Trp Met Tyr Ala Leu Gly Leu Ala Ala Ala Leu Phe

225	230	235	240
Thr Gly Glu Thr Asp Val Ala Lys Ile Leu Leu Gly Ala Gly Leu Gly	245	250	255
Ala Ala Gly Ile Leu Ala Val Val Leu Ser Thr Val Thr Thr Thr Phe	260	265	270
Leu Asp Ala Tyr Ser Ala Gly Ala Ser Ala Asn Asn Ile Ser Ala Arg	275	280	285
Phe Ala Glu Thr Pro Val Ala Val Gly Val Thr Leu Ile Gly Thr Val	290	295	300
Leu Ala Val Met Leu Pro Val Thr Glu Tyr Glu Asn Phe Leu Leu Leu	305	310	315
Ile Gly Ser Val Phe Ala Pro Met Ala Ala Val Leu Ile Ala Asp Phe	325	330	335
Phe Val Leu Lys Arg Arg Glu Glu Ile Glu Gly Phe Asp Phe Ala Gly	340	345	350
Leu Val Leu Trp Leu Ala Gly Phe Ile Leu Tyr Arg Phe Leu Leu Ser	355	360	365
Ser Gly Trp Glu Ser Ser Ile Gly Leu Thr Ala Pro Val Met Ser Ala	370	375	380
Val Ala Ile Ala Thr Val Ser Val Arg Leu Phe Phe Lys Lys Thr Gln	385	390	395
Ser Leu Gln Arg Asn Pro Ser	405		

<210> 803
 <211> 1041
 <212> DNA
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (23)..(23)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (132)..(132)
 <223> N= Unknown

<220>
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 <222> (206)..(206)
 <223> N= Unknown

<220>

<221> misc_feature
<222> (209)..(209)
<223> N= Unknown

<220>
<221> misc_feature
<222> (499)..(499)
<223> N= Unknown

<220>
<221> misc_feature
<222> (501)..(501)
<223> N= Unknown

<220>
<221> misc_feature
<222> (529)..(530)
<223> N= Unknown

<220>
<221> misc_feature
<222> (534)..(535)
<223> N= Unknown

<220>
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<222> (579)..(579)
<223> N= Unknown

<220>
<221> misc_feature
<222> (825)..(825)
<223> N= Unknown

<220>
<221> misc_feature
<222> (879)..(879)
<223> N= Unknown

<400> 803
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gcggcggtat cgattgccga aatcagcacg ggtacactgc ttgcgccttt gggctggcag 120
cgcggtctgg cngctctgct tttgggtcat gccgtcggcg gcgcgctggt ttttgcggcg 180
gcgtatatcg gcgcactgac cggacncanc tcgatggaaa gcgtgcgcct gtcggttcggc 240
aaacgcgggt cagtgtctgt ttccgtggcg aatatgctgc aactggccgg ctggacggcg 300
gtgatgattt acgccggcgc aacggtcagc tccgcttttg gcaaagtgtt gtgggacggc 360
gaatcttttg tctggtgggc attggcaaac ggcgcgctga ttgtgctgtg gctgggttttc 420
ggcgcacgca aaacaggcgg gctgaaaacc gtttcgatgc tgctgatgct gttggcgggt 480
ctgtggctga gtgccgaant nttttccacg gcaggcagca ccgccgcann ggtnnccagac 540
ggcatgagtt tcggaacggc agtcgagctg tccgcgctna tgccgctttc ttggctgccg 600
ctggccgccg actacacgcg ccacgcgcgc cgcgcgtttg cggcaaccct gacggcaacg 660
ctgcctaca cgctgaccgg ctgctggatg tatgccttgg gtttggcagc ggcgttggtc 720
accggagaaa ccgacgtggc aaaaatcctg ctgggcgcag gtttgggtgc ggcaggcatt 780
ttggcggtcg tcctgtcgac cgttaccacc actttttctg atgentactc cgccggcgta 840
agtgccaaca atatttccgc caaactttcg gaaataccna tcgccgttgc cgtcgccgtt 900
gtcggcacac tgcttgccgt cctcctgccc gttaccgaat atgaaaactt cctgctgctt 960

atcggctcgg tatttgccg gatggcggcg gttttgattg cgcacttttt cgtcttgaaa 1020
 cggcgtgagg agattgaagg c 1041

<210> 804
 <211> 347
 <212> PRT
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (8)..(8)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (69)..(70)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (167)..(167)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (177)..(177)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (179)..(179)
 <223> Xaa= any amino acid

<400> 804
 Met Ser Gly Asn Ala Ser Ser Xaa Ser Ser Ser Ala Ala Ile Gly Leu
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Ile Trp Phe Gly Ala Ala Val Ser Ile Ala Glu Ile Ser Thr Gly Thr
 20 25 30

Leu Leu Ala Pro Leu Gly Trp Gln Arg Gly Leu Ala Ala Leu Leu Leu
 35 40 45

Gly His Ala Val Gly Gly Ala Leu Phe Phe Ala Ala Ala Tyr Ile Gly
 50 55 60

Ala Leu Thr Gly Xaa Xaa Ser Met Glu Ser Val Arg Leu Ser Phe Gly
 65 70 75 80

Lys Arg Gly Ser Val Leu Phe Ser Val Ala Asn Met Leu Gln Leu Ala
 85 90 95

Gly Trp Thr Ala Val Met Ile Tyr Ala Gly Ala Thr Val Ser Ser Ala
 100 105 110

Leu Gly Lys Val Leu Trp Asp Gly Glu Ser Phe Val Trp Trp Ala Leu

115	120	125
Ala Asn Gly Ala Leu Ile Val Leu Trp Leu Val Phe Gly Ala Arg Lys		
130	135	140
Thr Gly Gly Leu Lys Thr Val Ser Met Leu Leu Met Leu Leu Ala Val		
145	150	155 160
Leu Trp Leu Ser Ala Glu Xaa Phe Ser Thr Ala Gly Ser Thr Ala Ala		
	165	170 175
Xaa Val Xaa Asp Gly Met Ser Phe Gly Thr Ala Val Glu Leu Ser Ala		
	180	185 190
Val Met Pro Leu Ser Trp Leu Pro Leu Ala Ala Asp Tyr Thr Arg His		
	195	200 205
Ala Arg Arg Pro Phe Ala Ala Thr Leu Thr Ala Thr Leu Ala Tyr Thr		
	210	215 220
Leu Thr Gly Cys Trp Met Tyr Ala Leu Gly Leu Ala Ala Ala Leu Phe		
	225	230 235 240
Thr Gly Glu Thr Asp Val Ala Lys Ile Leu Leu Gly Ala Gly Leu Gly		
	245	250 255
Ala Ala Gly Ile Leu Ala Val Val Leu Ser Thr Val Thr Thr Thr Phe		
	260	265 270
Leu Asp Ala Tyr Ser Ala Gly Val Ser Ala Asn Asn Ile Ser Ala Lys		
	275	280 285
Leu Ser Glu Ile Pro Ile Ala Val Ala Val Ala Val Val Gly Thr Leu		
	290	295 300
Leu Ala Val Leu Leu Pro Val Thr Glu Tyr Glu Asn Phe Leu Leu Leu		
	305	310 315 320
Ile Gly Ser Val Phe Ala Pro Met Ala Ala Val Leu Ile Ala Asp Phe		
	325	330 335
Phe Val Leu Lys Arg Arg Glu Glu Ile Glu Gly		
	340	345

<210> 805
 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

<220>
 <221> misc_feature
 <222> (1)..(8)
 <223> N = Unknown

<400> 805
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<210> 806
 <211> 343
 <212> PRT
 <213> *Neisseria gonorrhoeae*

<400> 806
 Met Ser Gly Asn Ala Ser Ser Pro Ser Ser Ser Ala Ala Ile Gly Leu
 1 5 10 15
 Val Trp Phe Gly Ala Ala Val Ser Ile Ala Glu Ile Ser Thr Gly Thr
 20 25 30
 Leu Leu Ala Pro Leu Gly Trp Gln Arg Gly Leu Ala Ala Leu Leu Leu
 35 40 45
 Gly His Ala Val Gly Gly Ala Leu Phe Phe Ala Ala Ala Tyr Ile Gly
 50 55 60
 Ala Leu Thr Gly Arg Ser Ser Met Glu Ser Val Arg Leu Ser Phe Gly
 65 70 75 80
 Lys Cys Gly Ser Val Leu Phe Ser Val Ala Asn Met Leu Gln Leu Ala
 85 90 95
 Gly Trp Thr Ala Val Met Ile Tyr Val Gly Ala Thr Val Ser Ser Ala
 100 105 110
 Leu Gly Lys Val Leu Trp Asp Gly Glu Ser Phe Val Trp Trp Ala Leu
 115 120 125
 Ala Asn Gly Ala Leu Ile Val Leu Trp Leu Val Phe Gly Ala Arg Arg
 130 135 140
 Thr Gly Gly Leu Lys Thr Val Ser Met Leu Leu Met Leu Leu Ala Val
 145 150 155 160
 Leu Trp Leu Ser Val Glu Val Phe Ala Ser Ser Gly Thr Asn Ala Ala
 165 170 175
 Pro Ala Val Ser Asp Gly Met Thr Phe Gly Thr Ala Val Glu Leu Ser
 180 185 190
 Ala Val Met Pro Leu Ser Trp Leu Pro Leu Ala Ala Asp Tyr Thr Arg
 195 200 205
 Gln Ala Arg Arg Pro Phe Ala Ala Thr Leu Thr Ala Thr Leu Ala Tyr
 210 215 220
 Thr Leu Thr Gly Cys Trp Met Tyr Ala Leu Gly Leu Ala Ala Ala Leu
 225 230 235 240
 Phe Thr Gly Glu Thr Asp Val Ala Lys Ile Leu Leu Gly Ala Gly Leu
 245 250 255
 Gly Ile Thr Gly Ile Leu Ala Val Val Leu Ser Thr Val Thr Thr Thr
 260 265 270

Phe Leu Asp Thr Tyr Ser Ala Gly Ala Ser Ala Asn Asn Ile Ser Ala
275 280 285

Arg Phe Ala Glu Ile Pro Val Ala Val Gly Val Thr Leu Ile Arg Thr
290 295 300

Val Leu Ala Val Met Leu Pro Val Thr Glu Tyr Lys Asn Phe Leu Leu
305 310 315 320

Leu Ile Arg Ser Val Phe Gly Pro Met Ala Gly Gly Phe Asp Cys Arg
325 330 335

Leu Phe Cys Leu Lys Thr Ala
340

<210> 807
<211> 1227
<212> DNA
<213> *Neisseria gonorrhoeae*

<400> 807
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gcggcgggat cgattgccga aatcagcacg ggtacgctgc tcgccccctt gggctggcag 120
cgcggtctgg cgcccttgc tttgggtcat gccgtcggcg gcgcgctgtt ttttgcggcg 180
gcgtatatcg gcgcactgac cggacgcagc tcgatggaaa gtgtgcgcct gtcgttcggc 240
aaatgcgggt cagtgcgtgt ttcgtggcg aatatgctgc aactggccgg ctggacggcg 300
gtgatgattt acgtcggcgc aacggtcagc tccgctttgg gcaaagtgtt gtgggacggc 360
gaatcctttg tctggtgggc attggcaaac ggcgcactga tcgtgctgtg gctggttttc 420
ggcgcacgca gaacggggcg gctgaaaacc gtttcgatgc tgctgatgct gcttgccgtg 480
ttgtggttga gcgtcgaagt gtctgcttcg tccgcacaaa acgcgcgcgc cgccgtttca 540
gacggcatga ccttcggaac ggcagtcgaa ctgtccgcgc tcatgcccgt ttcttggtg 600
ccgctggccg ccgactacac gcgccaaagc cgccgcgcgt ttgcggcaac cctgacggca 660
acgtcgcctt atacgctgac gggctgctgg atgtatgcct tgggtttggc ggccgctctg 720
tttaccggag aaaccgacgt ggcgaaaatc ctgttgggcg cgggcttggg cataacgggc 780
attctggcag tcgtcctctc caccgttacc acaacgtttc tcgataccta ttccgcggcg 840
gcgagtgcga acaacatttc cgcgcgtttt gcggaaatac ccgtcgcgtg cggcgttacc 900
ctgatcggca cgggtgcttg cgctcatgctg ccggttaccg aatataaaaa ctctctgctg 960
cttatcggct cgggtatttg gccgatggcg gcgggtttga ttgccgactt tttcgtctta 1020
aaacggcggt aggagattga aggtttgac tttgccggac tgggtctgtg gctggcaggc 1080
ttcatcctct accgcttctt gctctcgtcc ggttgggaaa gcagcatcgg tctgaccgcc 1140
cccgaatgt ctgccgttgc cattgccacc gtatcgggtac gccttttctt taaaaaaacc 1200
caatctttac aaaggaaccc gtcatga 1227

<210> 808
<211> 408
<212> PRT
<213> *Neisseria gonorrhoeae*

<400> 808
Met Ser Gly Asn Ala Ser Ser Pro Ser Ser Ser Ala Ala Ile Gly Leu
1 5 10 15

Val Trp Phe Gly Ala Ala Val Ser Ile Ala Glu Ile Ser Thr Gly Thr
20 25 30

Leu Leu Ala Pro Leu Gly Trp Gln Arg Gly Leu Ala Ala Leu Leu Leu

35					40					45					
Gly	His	Ala	Val	Gly	Gly	Ala	Leu	Phe	Phe	Ala	Ala	Ala	Tyr	Ile	Gly
50					55					60					
Ala	Leu	Thr	Gly	Arg	Ser	Ser	Met	Glu	Ser	Val	Arg	Leu	Ser	Phe	Gly
65					70					75					80
Lys	Cys	Gly	Ser	Val	Leu	Phe	Ser	Val	Ala	Asn	Met	Leu	Gln	Leu	Ala
				85					90					95	
Gly	Trp	Thr	Ala	Val	Met	Ile	Tyr	Val	Gly	Ala	Thr	Val	Ser	Ser	Ala
			100					105					110		
Leu	Gly	Lys	Val	Leu	Trp	Asp	Gly	Glu	Ser	Phe	Val	Trp	Trp	Ala	Leu
		115					120					125			
Ala	Asn	Gly	Ala	Leu	Ile	Val	Leu	Trp	Leu	Val	Phe	Gly	Ala	Arg	Arg
	130						135					140			
Thr	Gly	Gly	Leu	Lys	Thr	Val	Ser	Met	Leu	Leu	Met	Leu	Leu	Ala	Val
145							150					155			160
Leu	Trp	Leu	Ser	Val	Glu	Val	Phe	Ala	Ser	Ser	Gly	Thr	Asn	Ala	Ala
				165					170					175	
Pro	Ala	Val	Ser	Asp	Gly	Met	Thr	Phe	Gly	Thr	Ala	Val	Glu	Leu	Ser
			180						185				190		
Ala	Val	Met	Pro	Leu	Ser	Trp	Leu	Pro	Leu	Ala	Ala	Asp	Tyr	Thr	Arg
		195					200					205			
Gln	Ala	Arg	Arg	Pro	Phe	Ala	Ala	Thr	Leu	Thr	Ala	Thr	Leu	Ala	Tyr
	210						215					220			
Thr	Leu	Thr	Gly	Cys	Trp	Met	Tyr	Ala	Leu	Gly	Leu	Ala	Ala	Ala	Leu
225							230					235			240
Phe	Thr	Gly	Glu	Thr	Asp	Val	Ala	Lys	Ile	Leu	Leu	Gly	Ala	Gly	Leu
				245					250					255	
Gly	Ile	Thr	Gly	Ile	Leu	Ala	Val	Val	Leu	Ser	Thr	Val	Thr	Thr	Thr
			260						265					270	
Phe	Leu	Asp	Thr	Tyr	Ser	Ala	Gly	Ala	Ser	Ala	Asn	Asn	Ile	Ser	Ala
		275					280					285			
Arg	Phe	Ala	Glu	Ile	Pro	Val	Ala	Val	Gly	Val	Thr	Leu	Ile	Gly	Thr
		290					295					300			
Val	Leu	Ala	Val	Met	Leu	Pro	Val	Thr	Glu	Tyr	Lys	Asn	Phe	Leu	Leu
305							310					315			320
Leu	Ile	Gly	Ser	Val	Phe	Ala	Pro	Met	Ala	Ala	Val	Leu	Ile	Ala	Asp
				325					330					335	

Phe Phe Val Leu Lys Arg Arg Glu Glu Ile Glu Gly Phe Asp Phe Ala
 340 345 350

Gly Leu Val Leu Trp Leu Ala Gly Phe Ile Leu Tyr Arg Phe Leu Leu
 355 360 365

Ser Ser Gly Trp Glu Ser Ser Ile Gly Leu Thr Ala Pro Val Met Ser
 370 375 380

Ala Val Ala Ile Ala Thr Val Ser Val Arg Leu Phe Phe Lys Lys Thr
 385 390 395 400

Gln Ser Leu Gln Arg Asn Pro Ser
 405

<210> 809
 <211> 549
 <212> DNA
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (162)..(162)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (345)..(345)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (447)..(447)
 <223> N= Unknown

<400> 809
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 gcagaacaag gttatcagat tgcacttttc gataaaaagct gccgcccggg cgaacacgcc 120
 gccgcctatg tagccgccgc catgctcgcg cctgcagcgg anacggtcga agccacgccc 180
 gaagtgggtca ggctgggcag gcagagcatc ccgctttggc gcggcatccg atgccgtctg 240
 aacacgcaca cgatgatgca ggaaaacggc agcctgattg tatggcacgg gcaggacaag 300
 ccattatcca gcgagttcgt ccgccatctc aaacgcggcg gcgtnacgga tgacgaaatc 360
 gtccggttggc gcgccgacga catcgccgaa cgcgaaccgc aactcggcgg acgtttttta 420
 gacggcatct acctgccgac cgaagcncag ctcgacgggc ggcaattata gtctgcactt 480
 gccgacgctt tggacgaact gaacgtcccc tgccattggg aacacgaatg cgtccccgaa 540
 gcctgcaag 549

<210> 810
 <211> 183
 <212> PRT
 <213> Neisseria meningitidis

<220>
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 <222> (54)..(54)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (115)..(115)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (140)..(140)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (149)..(149)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (157)..(157)
 <223> Xaa= any amino acid

<400> 810
 Met Thr Arg Ile Ala Ile Leu Gly Gly Gly Leu Ser Gly Arg Leu Thr
 1 5 10 15
 Ala Leu Gln Leu Ala Glu Gln Gly Tyr Gln Ile Ala Leu Phe Asp Lys
 20 25 30
 Ser Cys Arg Arg Gly Glu His Ala Ala Ala Tyr Val Ala Ala Ala Met
 35 40 45
 Leu Ala Pro Ala Ala Xaa Thr Val Glu Ala Thr Pro Glu Val Val Arg
 50 55 60
 Leu Gly Arg Gln Ser Ile Pro Leu Trp Arg Gly Ile Arg Cys Arg Leu
 65 70 75 80
 Asn Thr His Thr Met Met Gln Glu Asn Gly Ser Leu Ile Val Trp His
 85 90 95
 Gly Gln Asp Lys Pro Leu Ser Ser Glu Phe Val Arg His Leu Lys Arg
 100 105 110
 Gly Gly Xaa Thr Asp Asp Glu Ile Val Arg Trp Arg Ala Asp Asp Ile
 115 120 125
 Ala Glu Arg Glu Pro Gln Leu Gly Gly Arg Phe Xaa Asp Gly Ile Tyr
 130 135 140
 Leu Pro Thr Glu Xaa Gln Leu Asp Gly Arg Gln Leu Xaa Ser Ala Leu
 145 150 155 160
 Ala Asp Ala Leu Asp Glu Leu Asn Val Pro Cys His Trp Glu His Glu
 165 170 175
 Cys Val Pro Glu Ala Cys Lys
 180

<210> 811
 <211> 1101
 <212> DNA
 <213> *Neisseria meningitidis*

<400> 811
 atgacccgta tcgccatcct cggcggcggc ctctcgggaa ggctgaccgc gttgcagctt 60
 gcagaacaag gttatcagat tgcacttttc gataaaggct gccgccgggg cgaacacgcc 120
 gccgcctatg ttgccgccgc catgctcgcg cctgcggcgg aagcggtcga agccacgccc 180
 gaagtgggtca ggctggggcag gcagagcatc ccgctttggc gcggcatccg atgccgtctg 240
 aacacgcaca cgatgatgca ggaaaacggc agcctgattg tgtggcacgg gcaggacaag 300
 ccattatcca gcgagttcgt ccgccatctc aaacgcggcg gcgtagcgga tgacgaaatc 360
 gtccgttggc gcgccgacga catcgccgaa cgcgaaccgc aactcggcgg acgtttttca 420
 gacggcatct acctgccgac cgaaggccag ctcgacgggc ggcaaattatt gtctgcactt 480
 gccgacgctt tggacgaact gaacgtcccc tgccattggg aacacgaatg cgtccccgaa 540
 ggcttgcaag cccaatacga ctggctgata gactgccgcg gctacggcgc aaaaaccgcg 600
 tggaaaccaat cccccgagca caccagcacc ctgcgcggca tacgcggcga agtggcgcgg 660
 gtttacacac ccgaaatcac gctcaaccgc cccgtgcgtc tgctccatcc gcgttatccg 720
 ctctacatcg ccccgaaaga aaaccacgtc ttcgtcatcg gcgcgaccca aatcgaaagc 780
 gaaagccaag cccccgccag cgtgcgttca ggggttggaa tcttgtccgc actctatgcc 840
 atccaccccg ccttcggcga agccgacatc ctcgaaatcg ccaccggcct gcgccccacg 900
 ctcaaccacc acaaccccga aatccgttac aaccgcgccc gacgcctgat tgaaatcaac 960
 ggccttttcc gccacgggtt catgatctcc cccgcggtaa ccgccgccgc cgccagattg 1020
 gcagtggcac tgtttgacgg aaaagacgcg cccgaacgcg ataaagaaaag cggtttggcg 1080
 tatatccgaa gacaagatta a 1101

<210> 812
 <211> 366
 <212> PRT
 <213> *Neisseria meningitidis*

<400> 812
 Met Thr Arg Ile Ala Ile Leu Gly Gly Gly Leu Ser Gly Arg Leu Thr
 1 5 10 15
 Ala Leu Gln Leu Ala Glu Gln Gly Tyr Gln Ile Ala Leu Phe Asp Lys
 20 25 30
 Gly Cys Arg Arg Gly Glu His Ala Ala Ala Tyr Val Ala Ala Ala Met
 35 40 45
 Leu Ala Pro Ala Ala Glu Ala Val Glu Ala Thr Pro Glu Val Val Arg
 50 55 60
 Leu Gly Arg Gln Ser Ile Pro Leu Trp Arg Gly Ile Arg Cys Arg Leu
 65 70 75 80
 Asn Thr His Thr Met Met Gln Glu Asn Gly Ser Leu Ile Val Trp His
 85 90 95
 Gly Gln Asp Lys Pro Leu Ser Ser Glu Phe Val Arg His Leu Lys Arg
 100 105 110
 Gly Gly Val Ala Asp Asp Glu Ile Val Arg Trp Arg Ala Asp Asp Ile
 115 120 125

Ala Glu Arg Glu Pro Gln Leu Gly Gly Arg Phe Ser Asp Gly Ile Tyr
 130 135 140
 Leu Pro Thr Glu Gly Gln Leu Asp Gly Arg Gln Ile Leu Ser Ala Leu
 145 150 155 160
 Ala Asp Ala Leu Asp Glu Leu Asn Val Pro Cys His Trp Glu His Glu
 165 170 175
 Cys Val Pro Glu Gly Leu Gln Ala Gln Tyr Asp Trp Leu Ile Asp Cys
 180 185 190
 Arg Gly Tyr Gly Ala Lys Thr Ala Trp Asn Gln Ser Pro Glu His Thr
 195 200 205
 Ser Thr Leu Arg Gly Ile Arg Gly Glu Val Ala Arg Val Tyr Thr Pro
 210 215 220
 Glu Ile Thr Leu Asn Arg Pro Val Arg Leu Leu His Pro Arg Tyr Pro
 225 230 235 240
 Leu Tyr Ile Ala Pro Lys Glu Asn His Val Phe Val Ile Gly Ala Thr
 245 250 255
 Gln Ile Glu Ser Glu Ser Gln Ala Pro Ala Ser Val Arg Ser Gly Leu
 260 265 270
 Glu Leu Leu Ser Ala Leu Tyr Ala Ile His Pro Ala Phe Gly Glu Ala
 275 280 285
 Asp Ile Leu Glu Ile Ala Thr Gly Leu Arg Pro Thr Leu Asn His His
 290 295 300
 Asn Pro Glu Ile Arg Tyr Asn Arg Ala Arg Arg Leu Ile Glu Ile Asn
 305 310 315 320
 Gly Leu Phe Arg His Gly Phe Met Ile Ser Pro Ala Val Thr Ala Ala
 325 330 335
 Ala Ala Arg Leu Ala Val Ala Leu Phe Asp Gly Lys Asp Ala Pro Glu
 340 345 350
 Arg Asp Lys Glu Ser Gly Leu Ala Tyr Ile Arg Arg Gln Asp
 355 360 365

<210> 813
 <211> 1101
 <212> DNA
 <213> Neisseria meningitidis

<220>
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 <222> (36)..(36)
 <223> N= Unknown

<220>

<221> misc_feature
<222> (206)..(206)
<223> N= Unknown

<220>
<221> misc_feature
<222> (261)..(261)
<223> N= Unknown

<220>
<221> misc_feature
<222> (355)..(355)
<223> N= Unknown

<220>
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<222> (618)..(619)
<223> N= Unknown

<220>
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<222> (621)..(621)
<223> N= Unknown

<220>
<221> misc_feature
<222> (723)..(723)
<223> N= Unknown

<220>
<221> misc_feature
<222> (746)..(746)
<223> N= Unknown

<220>
<221> misc_feature
<222> (1047)..(1047)
<223> N= Unknown

<400> 813
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gcagaacaag gttatcagat tgcacttttc gataaaggct gccgccgggg cgaacacgcc 120
gccgcctatg ttgccgccgc catgctcgcg cctgcggcgg aagcggtcga agccacgcct 180
gaagtgggtca ggctgggcag gcagancatc ccgctttggc gcggcatccg atgccatctg 240
aaaacgcctg ccatgatgca ngaaaacggc agcctgattg tgtggcacgg gcaggacaaa 300
cctttatcca acgagttcgt ccgccatctc aaacgcggcg gcgtagcgga tgacnaaatc 360
gtccgttggc gcgccgacga catcgccgaa cgcgaaccgc aactcggcgg acgtttttca 420
gacggcatct acctgccgac cgaaggccag ctcgacgggc ggcaaatatt gtctgcactt 480
gccgacgctt tggacgaact gaacgtcccc tgccattggg aacacgaatg tgcccccgaa 540
gacttgcaag cccaatacga ctggctgata gactgccggc gctacggcgc aaaaaccgcg 600
tggaaccaat cccccganna naccagcacc ctgcgcggca tacgcggcga agtggcgcgg 660
gtttacacac ccgaaatcac gctcaaccgc cccgtgcgcc tgctacaccc gcgctatccg 720
ctntacatcg ccccgaaaga aaaccncgtc ttcgtcatcg gcgcgaccca aatcgaaagc 780
gaaagccaag cacctgccag cgtgcggttc gggctggaac tcttatccgc actctatgcc 840
gtccaccccg ccttcggcga agccgacatc ctcgaaatcg ccaccggcct gcgccccacg 900
ctcaatcacc acaacccgga aatccgttac aaccgcgccc gacgcctgat tgaaatcaac 960

ggccttttcc gccacgggtt catgatctcc cccgccgtaa ccgccgccgc cgtcagattg	1020
gcagtggcac tgtttgacgg aaaagangcg cccgaacgcg atgaagaaag cggtttggcg	1080
tatatccgaa gacaagatta a	1101

<210> 814
 <211> 366
 <212> PRT
 <213> Neisseria meningitidis

<220>
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 <222> (69)..(69)
 <223> Xaa= any amino acid

<220>
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 <222> (87)..(87)
 <223> Xaa= any amino acid

<220>
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 <222> (119)..(119)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (206)..(207)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (249)..(249)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (349)..(349)
 <223> Xaa= any amino acid

<400> 814
 Met Thr Arg Ile Ala Ile Leu Gly Gly Gly Leu Ser Gly Arg Leu Thr
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 Ala Leu Gln Leu Ala Glu Gln Gly Tyr Gln Ile Ala Leu Phe Asp Lys
 20 25 30
 Gly Cys Arg Arg Gly Glu His Ala Ala Ala Tyr Val Ala Ala Ala Met
 35 40 45
 Leu Ala Pro Ala Ala Glu Ala Val Glu Ala Thr Pro Glu Val Val Arg
 50 55 60
 Leu Gly Arg Gln Xaa Ile Pro Leu Trp Arg Gly Ile Arg Cys His Leu
 65 70 75 80
 Lys Thr Pro Ala Met Met Xaa Glu Asn Gly Ser Leu Ile Val Trp His

85

90

95

Gly	Gln	Asp	Lys	Pro	Leu	Ser	Asn	Glu	Phe	Val	Arg	His	Leu	Lys	Arg
			100					105					110		
Gly	Gly	Val	Ala	Asp	Asp	Xaa	Ile	Val	Arg	Trp	Arg	Ala	Asp	Asp	Ile
		115					120					125			
Ala	Glu	Arg	Glu	Pro	Gln	Leu	Gly	Gly	Arg	Phe	Ser	Asp	Gly	Ile	Tyr
	130					135					140				
Leu	Pro	Thr	Glu	Gly	Gln	Leu	Asp	Gly	Arg	Gln	Ile	Leu	Ser	Ala	Leu
145					150					155					160
Ala	Asp	Ala	Leu	Asp	Glu	Leu	Asn	Val	Pro	Cys	His	Trp	Glu	His	Glu
				165					170					175	
Cys	Ala	Pro	Glu	Asp	Leu	Gln	Ala	Gln	Tyr	Asp	Trp	Leu	Ile	Asp	Cys
			180					185					190		
Arg	Gly	Tyr	Gly	Ala	Lys	Thr	Ala	Trp	Asn	Gln	Ser	Pro	Xaa	Xaa	Thr
		195					200					205			
Ser	Thr	Leu	Arg	Gly	Ile	Arg	Gly	Glu	Val	Ala	Arg	Val	Tyr	Thr	Pro
	210					215					220				
Glu	Ile	Thr	Leu	Asn	Arg	Pro	Val	Arg	Leu	Leu	His	Pro	Arg	Tyr	Pro
225					230					235					240
Leu	Tyr	Ile	Ala	Pro	Lys	Glu	Asn	Xaa	Val	Phe	Val	Ile	Gly	Ala	Thr
				245					250					255	
Gln	Ile	Glu	Ser	Glu	Ser	Gln	Ala	Pro	Ala	Ser	Val	Arg	Ser	Gly	Leu
			260					265					270		
Glu	Leu	Leu	Ser	Ala	Leu	Tyr	Ala	Val	His	Pro	Ala	Phe	Gly	Glu	Ala
		275					280					285			
Asp	Ile	Leu	Glu	Ile	Ala	Thr	Gly	Leu	Arg	Pro	Thr	Leu	Asn	His	His
	290					295					300				
Asn	Pro	Glu	Ile	Arg	Tyr	Asn	Arg	Ala	Arg	Arg	Leu	Ile	Glu	Ile	Asn
305					310					315					320
Gly	Leu	Phe	Arg	His	Gly	Phe	Met	Ile	Ser	Pro	Ala	Val	Thr	Ala	Ala
				325					330					335	
Ala	Val	Arg	Leu	Ala	Val	Ala	Leu	Phe	Asp	Gly	Lys	Xaa	Ala	Pro	Glu
			340					345					350		
Arg	Asp	Glu	Glu	Ser	Gly	Leu	Ala	Tyr	Ile	Arg	Arg	Gln	Asp		
		355				360						365			

<210> 815

<211> 8

<212> DNA

<213> Neisseria gonorrhoeae

<220>

<221> misc_feature

<222> (1)..(8)

<223> N = Unknown

<400> 815

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8

<210> 816

<211> 366

<212> PRT

<213> Neisseria gonorrhoeae

<400> 816

Met Thr Arg Ile Ala Val Leu Gly Gly Gly Leu Ser Gly Arg Leu Thr
1 5 10 15

Ala Leu Gln Leu Ala Glu Gln Gly Tyr Gln Ile Glu Leu Phe Asp Lys
20 25 30

Gly Thr Arg Gln Gly Glu His Ala Ala Ala Tyr Val Ala Ala Ala Met
35 40 45

Leu Ala Pro Ala Ala Glu Ala Val Glu Ala Thr Pro Glu Val Ile Arg
50 55 60

Leu Gly Arg Gln Ser Ile Pro Leu Trp Arg Gly Ile Arg Cys Arg Leu
65 70 75 80

Asn Thr Leu Thr Met Met Gln Glu Asn Gly Ser Leu Ile Val Trp His
85 90 95

Gly Gln Asp Lys Pro Leu Ser Ser Glu Phe Val Arg His Leu Lys Arg
100 105 110

Gly Gly Val Ala Asp Asp Glu Ile Val Arg Trp Arg Ala Asp Glu Ile
115 120 125

Ala Glu Arg Glu Pro Gln Leu Gly Gly Arg Phe Ser Asp Gly Ile Tyr
130 135 140

Leu Pro Thr Glu Gly Gln Leu Asp Gly Arg Gln Ile Leu Ser Ala Leu
145 150 155 160

Ala Asp Ala Leu Asp Glu Leu Asn Val Pro Cys His Trp Glu His Glu
165 170 175

Cys Ala Pro Gln Asp Leu Gln Ala Gln Tyr Asp Trp Val Ile Asp Cys
180 185 190

Arg Gly Tyr Gly Ala Lys Thr Ala Trp Asn Gln Ser Pro Glu His Thr
195 200 205

Ser Thr Leu Arg Gly Ile Arg Gly Glu Val Arg Gly Phe Thr Arg Pro

210					215					220					
Lys 225	Ser	Arg	Ser	Thr	Ala 230	Pro	Cys	Ala	Cys	Cys 235	Thr	Arg	Ala	Ile	Arg 240
Ser	Thr	Ser	Pro	Arg 245	Lys	Lys	Thr	Thr	Ser 250	Ser	Ser	Ser	Ala	Arg 255	Pro
Lys	Ser	Lys	Ala 260	Lys	Ala	Lys	Pro	Pro	Pro 265	Ala	Tyr	Val	Pro 270	Gly	Trp
Asn	Ser	Tyr 275	Pro	Arg	Ser	Met	Pro 280	Ser	Thr	Pro	Pro 285	Ser	Ala	Lys	Pro
Thr	Ser 290	Ser	Lys	Trp	Arg	Pro 295	Gly	Leu	Arg	Pro	Thr 300	Leu	Asn	His	His
Asn 305	Pro	Glu	Ile	Arg	Tyr 310	Ser	Arg	Glu	Arg	Arg 315	Leu	Ile	Glu	Ile	Asn 320
Gly	Leu	Phe	Arg	His 325	Gly	Phe	Met	Ile	Ser 330	Pro	Ala	Val	Thr	Ala 335	Ala
Ala	Val	Arg	Leu	Ala 340	Val	Ala	Leu	Phe 345	Asp	Gly	Lys	Asp	Ala 350	Pro	Glu
Arg	Asp	Glu 355	Glu	Ser	Gly	Leu	Ala 360	Tyr	Ile	Gly	Arg	Gln 365	Asp		

<400>	817								
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gcagaacaag	gttatcagat	tgaacttttc	gacaagggca	cccgccaaag	cgaacacgcc				120
gccgcctatg	ttgccgcccc	gatgctcgcg	cctgcggcgg	aagcggtcga	ggcaacgccc				180
gaagtcatca	ggctgggcag	gcagagcatt	ccgctttggc	gcggcatccg	atgccgtctg				240
aacacgctca	cgatgatgca	ggaaaacggc	agcctgattg	tgtggcacgg	gcaggacaag				300
ccattatcca	gcgagttcgt	ccgccatctc	aaacgcggcg	gcgtagcgga	tgacgaaatc				360
gtccgttggc	gcgcccagta	aatcgccgaa	cgcgaaccgc	aactcggcgg	acgtttttca				420
gacggcatct	acctgcccag	cgaaggccag	ctcgacgggc	ggcaaatatt	gtctgcactt				480
gccgacgctt	tggacgaact	gaacgtccct	tgccattggg	aacacgaatg	cgccccccaa				540
gacctgcaag	cccaatacga	ctgggtaatc	gactgccggg	gctacggcgc	gaaaaccgcg				600
tggaaccaat	cccccgagca	caccagcacc	ttgcgcggca	tacgcggcga	agtggcgcgg				660
gtttacacgc	ccgaaatcac	gctcaaccgc	cccgtgcgcc	tgctgcaccc	gcgctatccg				720
ctctacatcg	ccccgaaaga	aaaccacgtc	ttcgtcatcg	gcgcgaccca	aatcgaaagc				780
gaaagccaag	cccccgccag	cgtagcttcc	gggctggaac	tcttatccgc	gctctatgcc				840
gtccaccccc	ccttcggcga	agccgacatc	ctcgaaatcg	ccgccggcct	gcgccccacg				900
ctcaaccacc	acaaccccca	aatccgctac	agccgcgaac	gccgcctcat	cgaatcaaac				960
ggccttttcc	ggcacggctt	tatgatttcc	cccgccgtaa	ccgcgcgcgc	cgtcagattg				1020
gcagtggcac	tgtttgcagg	aaaagacgcg	cccgaacgtg	atgaagaaaag	cggtttggcg				1080
tatatcgqaa	gacaagatta	a							1101

<211> 366
<212> PRT
<213> Neisseria gonorrhoeae

<400> 818
Met Thr Arg Ile Ala Val Leu Gly Gly Gly Leu Ser Gly Arg Leu Thr
1 5 10 15
Ala Leu Gln Leu Ala Glu Gln Gly Tyr Gln Ile Glu Leu Phe Asp Lys
20 25 30
Gly Thr Arg Gln Gly Glu His Ala Ala Ala Tyr Val Ala Ala Ala Met
35 40 45
Leu Ala Pro Ala Ala Glu Ala Val Glu Ala Thr Pro Glu Val Ile Arg
50 55 60
Leu Gly Arg Gln Ser Ile Pro Leu Trp Arg Gly Ile Arg Cys Arg Leu
65 70 75 80
Asn Thr Leu Thr Met Met Gln Glu Asn Gly Ser Leu Ile Val Trp His
85 90 95
Gly Gln Asp Lys Pro Leu Ser Ser Glu Phe Val Arg His Leu Lys Arg
100 105 110
Gly Gly Val Ala Asp Asp Glu Ile Val Arg Trp Arg Ala Asp Glu Ile
115 120 125
Ala Glu Arg Glu Pro Gln Leu Gly Gly Arg Phe Ser Asp Gly Ile Tyr
130 135 140
Leu Pro Thr Glu Gly Gln Leu Asp Gly Arg Gln Ile Leu Ser Ala Leu
145 150 155 160
Ala Asp Ala Leu Asp Glu Leu Asn Val Pro Cys His Trp Glu His Glu
165 170 175
Cys Ala Pro Gln Asp Leu Gln Ala Gln Tyr Asp Trp Val Ile Asp Cys
180 185 190
Arg Gly Tyr Gly Ala Lys Thr Ala Trp Asn Gln Ser Pro Glu His Thr
195 200 205
Ser Thr Leu Arg Gly Ile Arg Gly Glu Val Ala Arg Val Tyr Thr Pro
210 215 220
Glu Ile Thr Leu Asn Arg Pro Val Arg Leu Leu His Pro Arg Tyr Pro
225 230 235 240
Leu Tyr Ile Ala Pro Lys Glu Asn His Val Phe Val Ile Gly Ala Thr
245 250 255
Gln Ile Glu Ser Glu Ser Gln Ala Pro Ala Ser Val Arg Ser Gly Leu
260 265 270

Glu Leu Leu Ser Ala Leu Tyr Ala Val His Pro Ala Phe Gly Glu Ala
 275 280 285

Asp Ile Leu Glu Ile Ala Ala Gly Leu Arg Pro Thr Leu Asn His His
 290 295 300

Asn Pro Glu Ile Arg Tyr Ser Arg Glu Arg Arg Leu Ile Glu Ile Asn
 305 310 315 320

Gly Leu Phe Arg His Gly Phe Met Ile Ser Pro Ala Val Thr Ala Ala
 325 330 335

Ala Val Arg Leu Ala Val Ala Leu Phe Asp Gly Lys Asp Ala Pro Glu
 340 345 350

Arg Asp Glu Glu Ser Gly Leu Ala Tyr Ile Gly Arg Gln Asp
 355 360 365

<210> 819

<211> 452

<212> DNA

<213> Neisseria meningitidis

<400> 819

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gtacttgctt	taattgttta	tccgagctat	cgcaattatg	ttgagaaagc	aaagataaat	120
gcagtgcggg	cagccttggt	agaaaatgca	cattttatgg	aaaagtttta	tctgcagaat	180
gggagggttta	aacaaacatc	taccaagtgg	ccaagtttgc	cgattaaaga	ggcagaaggc	240
ttttgtatcc	gtttgaatgg	aatcgtcgcg	cggggcttta	gacagtaaag	tcatgttgaa	300
ggcggtagcc	atagataaag	ataaaaatcc	ttttattatt	aagatgaatg	aaaatctagt	360
aacctttaat	ttgcaagaag	tccgccagtt	cgtgtagtga	cgggctggat	tattttaaag	420
gaaatgataa	ggactgcaag	ttacttaagt	ag			452

<210> 820

<211> 150

<212> PRT

<213> Neisseria meningitidis

<220>

<221> misc_feature

<222> (92)..(92)

<223> Xaa= any amino acid

<400> 820

Met Thr Asp Asn Arg Gly Phe Thr Leu Val Glu Leu Ile Ser Val Val
 1 5 10 15

Leu Ile Leu Ser Val Leu Ala Leu Ile Val Tyr Pro Ser Tyr Arg Asn
 20 25 30

Tyr Val Glu Lys Ala Lys Ile Asn Ala Val Arg Ala Ala Leu Leu Glu
 35 40 45

Asn Ala His Phe Met Glu Lys Phe Tyr Leu Gln Asn Gly Arg Phe Lys
 50 55 60

Gln Thr Ser Thr Lys Trp Pro Ser Leu Pro Ile Lys Glu Ala Glu Gly
65 70 75 80

Phe Cys Ile Arg Leu Asn Gly Ile Val Ala Arg Xaa Ala Leu Asp Ser
85 90 95

Lys Phe Met Leu Lys Ala Val Ala Ile Asp Lys Asp Lys Asn Pro Phe
100 105 110

Ile Ile Lys Met Asn Glu Asn Leu Val Thr Phe Ile Cys Lys Lys Ser
115 120 125

Ala Ser Ser Cys Ser Asp Gly Leu Asp Tyr Phe Lys Gly Asn Asp Lys
130 135 140

Asp Cys Lys Leu Leu Lys
145 150

<210> 821
<211> 450
<212> DNA
<213> Neisseria meningitidis

<400> 821
atgactgata atcggggggtt tacgctgggt gaattaatat cagtgggtctt gatattgtct 60
gtacttgctt taattgttta tccgagctat cgcaattatg ttgagaaagc aaagataaat 120
gcagtgcggg cagccttggt agaaaatgca cattttatgg aaaagtttta tctgcagaat 180
gggagggttta aacaaacatc taccaagtgg ccaagtttgc cgattaaaga ggcagaaggc 240
ttttgtatcc gtttgaatgg aatcgcgcg cggggttttag acagtaaatt catgttgaag 300
gcggtagcca tagataaaga taaaaatcct tttattatta agatgaatga aaatctagta 360
acctttatctt gcaagaagtc cgccagttcg tgtagtgcgc ggctggatta ttttaaagga 420
aatgataagg actgcaagtt acttaagtag 450

<210> 822
<211> 149
<212> PRT
<213> Neisseria meningitidis

<400> 822
Met Thr Asp Asn Arg Gly Phe Thr Leu Val Glu Leu Ile Ser Val Val
1 5 10 15

Leu Ile Leu Ser Val Leu Ala Leu Ile Val Tyr Pro Ser Tyr Arg Asn
20 25 30

Tyr Val Glu Lys Ala Lys Ile Asn Ala Val Arg Ala Ala Leu Leu Glu
35 40 45

Asn Ala His Phe Met Glu Lys Phe Tyr Leu Gln Asn Gly Arg Phe Lys
50 55 60

Gln Thr Ser Thr Lys Trp Pro Ser Leu Pro Ile Lys Glu Ala Glu Gly
65 70 75 80

Phe Cys Ile Arg Leu Asn Gly Ile Ala Arg Gly Ala Leu Asp Ser Lys
85 90 95

Phe Met Leu Lys Ala Val Ala Ile Asp Lys Asp Lys Asn Pro Phe Ile
 100 105 110

Ile Lys Met Asn Glu Asn Leu Val Thr Phe Ile Cys Lys Lys Ser Ala
 115 120 125

Ser Ser Cys Ser Asp Gly Leu Asp Tyr Phe Lys Gly Asn Asp Lys Asp
 130 135 140

Cys Lys Leu Leu Lys
 145

<210> 823
 <211> 450
 <212> DNA
 <213> Neisseria meningitidis

<400> 823
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 gtacttgctt taattgttta tccgagctat cgcaattatg ttgagaaagc aaagataaat 120
 acagtgcggg cagccttggtt agaaaatgca cattttatgg aaaagtttta tctgcagaat 180
 gggagattta aacaaacatc taccaaatgg ccaagtttgc cgattaaaga ggcagaaggc 240
 ttttgatatcc gtttgaatgg aatcgcgcg cggggccttag acagtaaatt catgttgaag 300
 gcggtagcca tagataaaga taaaaatcct ttattatta agatgaatga aaatctagta 360
 acctttattt gcaagaagtc cgccagttcg tgtagtgacg ggctggatta ttttaaagga 420
 aatgataagg actgcaagtt acttaagtag 450

<210> 824
 <211> 149
 <212> PRT
 <213> Neisseria meningitidis

<400> 824
 Met Thr Asp Asn Arg Gly Phe Thr Leu Val Glu Leu Ile Ser Val Val
 1 5 10 15
 Leu Ile Leu Ser Val Leu Ala Leu Ile Val Tyr Pro Ser Tyr Arg Asn
 20 25 30
 Tyr Val Glu Lys Ala Lys Ile Asn Thr Val Arg Ala Ala Leu Leu Glu
 35 40 45
 Asn Ala His Phe Met Glu Lys Phe Tyr Leu Gln Asn Gly Arg Phe Lys
 50 55 60
 Gln Thr Ser Thr Lys Trp Pro Ser Leu Pro Ile Lys Glu Ala Glu Gly
 65 70 75 80
 Phe Cys Ile Arg Leu Asn Gly Ile Ala Arg Gly Ala Leu Asp Ser Lys
 85 90 95
 Phe Met Leu Lys Ala Val Ala Ile Asp Lys Asp Lys Asn Pro Phe Ile
 100 105 110
 Ile Lys Met Asn Glu Asn Leu Val Thr Phe Ile Cys Lys Lys Ser Ala
 115 120 125

Ser Ser Cys Ser Asp Gly Leu Asp Tyr Phe Lys Gly Asn Asp Lys Asp
 130 135 140

Cys Lys Leu Leu Lys
 145

<210> 825
 <211> 450
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 825
 atgactgata atcggggggtt tacactgggtt gaattaatat cagtgggtctt gatattgtct 60
 gtacttgctt taattgttta tccgagctat cgcaattatg ttgagaaaagc aaagataaat 120
 gcagtgcggg cagccttggt agaaaatgca cattttatgg aaaagtttta tctgcagaat 180
 gggagattta aacaaacatc taccaaattgg ccaagtttgc cgattaaaga ggcagaaggc 240
 ttttgtatcc gtttgaatgg aatcgcgcg cgggcttttag acagttaaatt catgttgaag 300
 gcggttagcca tagataaaga taaaaatcct tttattatta agatgaatga aaatctagta 360
 acctttatct gcaagaagtc cgccagttcg tgtagtgcgc ggctggatta ttttaaagga 420
 aatgataagg actgcaagtt acttaagtag 450

<210> 826
 <211> 149
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 826
 Met Thr Asp Asn Arg Gly Phe Thr Leu Val Glu Leu Ile Ser Val Val
 1 5 10 15
 Leu Ile Leu Ser Val Leu Ala Leu Ile Val Tyr Pro Ser Tyr Arg Asn
 20 25 30
 Tyr Val Glu Lys Ala Lys Ile Asn Ala Val Arg Ala Ala Phe Leu Glu
 35 40 45
 Asn Ala His Phe Met Glu Lys Phe Tyr Leu Gln Asn Gly Arg Phe Lys
 50 55 60
 Gln Thr Ser Thr Lys Trp Pro Ser Leu Pro Ile Lys Glu Ala Glu Gly
 65 70 75 80
 Phe Cys Ile Arg Leu Asn Gly Ile Ala Arg Gly Ala Leu Asp Ser Lys
 85 90 95
 Phe Met Leu Lys Ala Val Ala Ile Asp Lys Asp Lys Asn Pro Phe Ile
 100 105 110
 Ile Lys Met Asn Glu Asn Leu Val Thr Phe Ile Cys Lys Lys Ser Ala
 115 120 125
 Ser Ser Cys Ser Asp Arg Leu Asp Tyr Phe Lys Gly Asn Asp Lys Asp
 130 135 140
 Cys Lys Leu Leu Lys
 145

<210> 827
 <211> 734
 <212> DNA
 <213> Neisseria meningitidis

<400> 827
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 cggaaaaccc gtggagctat ctgcgggtttt cttgtccaat atttatctgg ggtttcagca 120
 ggggtatttc gatttgagtg ccgacgagaa ccccgtagtg catatctggt ctttggcagt 180
 agaggaacag tattacctcc tgtatccccct tttgctgata ttttgctgca aaaaaaccaa 240
 atcgctacgg gtgctgcgta acatcagcat catcctgttt ttgattttga ctgcctcatc 300
 gtttttgcca agcgggtttt ataccgacat cctcaaccaa cccaatactt attacctttc 360
 gacactgagg tttcccagagc tgttggcagg ttcgctgctg gcggtttacg ggcaaacgca 420
 aaacggcaga cggcaaacag caaatggaaa acggcagttg ctttcatcac tctgcttcgg 480
 cgcattgctt gcctgcctgt tcgtgattga caaacacaaat ccgtttatcc cgggaatgac 540
 cctgctcctt ccctgcctgc tgacggcact gcttatccgg agtatgcaat acgggacact 600
 tccgaccgcg atcctgtcgg caagcccat cgtatttgct ggcaaaatct cttattccct 660
 atacctgtac cattggattt ttattgcttt cgctccgctc attagaggcg ggaaacagct 720
 cggactgcct gccg 734

<210> 828
 <211> 244
 <212> PRT
 <213> Neisseria meningitidis

<400> 828
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 1 5 10 15
 Phe Asn Gln Met Arg Lys Thr Val Glu Leu Ser Ala Val Phe Leu Ser
 20 25 30
 Asn Ile Tyr Leu Gly Phe Gln Gln Gly Tyr Phe Asp Leu Ser Ala Asp
 35 40 45
 Glu Asn Pro Val Leu His Ile Trp Ser Leu Ala Val Glu Glu Gln Tyr
 50 55 60
 Tyr Leu Leu Tyr Pro Leu Leu Leu Ile Phe Cys Cys Lys Lys Thr Lys
 65 70 75 80
 Ser Leu Arg Val Leu Arg Asn Ile Ser Ile Ile Leu Phe Leu Ile Leu
 85 90 95
 Thr Ala Ser Ser Phe Leu Pro Ser Gly Phe Tyr Thr Asp Ile Leu Asn
 100 105 110
 Gln Pro Asn Thr Tyr Tyr Leu Ser Thr Leu Arg Phe Pro Glu Leu Leu
 115 120 125
 Ala Gly Ser Leu Leu Ala Val Tyr Gly Gln Thr Gln Asn Gly Arg Arg
 130 135 140
 Gln Thr Ala Asn Gly Lys Arg Gln Leu Leu Ser Ser Leu Cys Phe Gly
 145 150 155 160

Ala Leu Leu Ala Cys Leu Phe Val Ile Asp Lys His Asn Pro Phe Ile
 165 170 175

Pro Gly Met Thr Leu Leu Leu Pro Cys Leu Leu Thr Ala Leu Leu Ile
 180 185 190

Arg Ser Met Gln Tyr Gly Thr Leu Pro Thr Arg Ile Leu Ser Ala Ser
 195 200 205

Pro Ile Val Phe Val Gly Lys Ile Ser Tyr Ser Leu Tyr Leu Tyr His
 210 215 220

Trp Ile Phe Ile Ala Phe Ala Pro Leu Ile Arg Gly Gly Lys Gln Leu
 225 230 235 240

Gly Leu Pro Ala

<210> 829
 <211> 1869
 <212> DNA
 <213> Neisseria meningitidis

<400> 829
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 gtcattgattt tccacctgaa taaccgctgg ctgcccggag gattcctggg ggtggacatt 120
 ttctttgtca tctcaggatt cctcattacc ggcattcattc tttctgaaat acagaacggg 180
 tctttttctt tccgggattt ttataccgc aggattaagc ggatttatcc tgcctttatt 240
 gcgccgctgt cgctggcttc ggtgattgcc tctcaaactc tcctttacga agatttcaac 300
 caaatgcgga aaaccgtgga gctttctgcg gttttcttgt ccaatattta tctgggggtt 360
 cagcaggggt atttcgattt gagtgcgcgac gagaaccccg tactgcatat ctggtccttg 420
 gcagtagagg aacagtatta cctcctgtat ccccttttgc tgatattttg ctgcaaaaaa 480
 accaaatcgc tacgggtgct gcgtaacatc agcatcatcc tgtttttgat tttgactgcc 540
 tcatcgtttt tgccaagcgg gttttatacc gacatcctca accaacccaa tacttattac 600
 ctttcgacac tgaggtttcc cgagctgttg gcaggttcgc tgctggcggt ttacgggcaa 660
 acgcaaaacg gcagacggca aacagcaaat ggaaaacggc agttgctttc atcactctgc 720
 ttcggcgcat tgcttgctg cctgttcgtg attgacaaac acaatccgtt tatcccggga 780
 atgaccctgc tccttcctg cctgctgacg gcactgctta tccggagat gcaatacggg 840
 acacttccga cccgcattct gtcggcaagc cccatcgat ttgtcggcaa aatctcttat 900
 tccctatacc tgtaccattg gatttttatt gctttcgcgc attacattac aggcgacaaa 960
 cagctcggac tgcttgccgt atcggcggtt gccgcgttga cggccggatt ttccctgttg 1020
 agttattatt tgattgaaca gccgcttaga aaacggaaga tgaccttcaa aaaggcattt 1080
 ttctgcctct atctgcgcc gtcctgata cttgtcgggt acaacctgta cgcaaggggg 1140
 atattgaaac aggaacacct ccgcccgttg cccggcgcgcc ccttgctgc ggaaaatcat 1200
 tttccggaaa ccgtcctgac cctcggcgac tcgcacgcgc gacacctgag ggggtttctg 1260
 gattatgtcg gcagccggga aggggtgaaa gccaaaatcc tgtccctcga ttcggagtgt 1320
 ttggtttggg tagatgagaa gctggcagac aaccggttat gtcgaaaata ccgggatgaa 1380
 gttgaaaaag ccgaagccgt tttcattgcc caattctatg atttgaggat gggcggccag 1440
 cctgtgcga gatttgaagc gcaatccttc ctaatacccg gggtcccagc ccgattcagg 1500
 gaaaccgtca aaaggatagc cgccgtcaaa cccgtctatg tttttgcaaa caacacatca 1560
 atcagccgtt cgccctgag ggaggaaaaa ttgaaaagat ttgccgcaaa ccaatatctc 1620
 cgccccattc aggctatggg cgacatcggc aagagcaatc aggcggtctt tgatttgatt 1680
 aaagatattc ccaatgtgca ttgggtggac gcacaaaaat acctgccc aaacacgggtc 1740
 gaaatatacg gccgctatct ttacggcgac caagaccacc tgacctattt cggttcttat 1800
 tatatggggc ggggaattcca caaacacgaa cgctgctta aatcttccca cggcggcgca 1860
 ttgcagtag 1869

<210> 830
 <211> 622
 <212> PRT
 <213> Neisseria meningitidis

<400> 830

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			20					25					30		
Gly	Gly	Phe	Leu	Gly	Val	Asp	Ile	Phe	Phe	Val	Ile	Ser	Gly	Phe	Leu
		35					40					45			
Ile	Thr	Gly	Ile	Ile	Leu	Ser	Glu	Ile	Gln	Asn	Gly	Ser	Phe	Ser	Phe
	50					55					60				
Arg	Asp	Phe	Tyr	Thr	Arg	Arg	Ile	Lys	Arg	Ile	Tyr	Pro	Ala	Phe	Ile
65					70					75					80
Ala	Ala	Val	Ser	Leu	Ala	Ser	Val	Ile	Ala	Ser	Gln	Ile	Phe	Leu	Tyr
				85					90					95	
Glu	Asp	Phe	Asn	Gln	Met	Arg	Lys	Thr	Val	Glu	Leu	Ser	Ala	Val	Phe
			100					105					110		
Leu	Ser	Asn	Ile	Tyr	Leu	Gly	Phe	Gln	Gln	Gly	Tyr	Phe	Asp	Leu	Ser
		115					120					125			
Ala	Asp	Glu	Asn	Pro	Val	Leu	His	Ile	Trp	Ser	Leu	Ala	Val	Glu	Glu
	130					135					140				
Gln	Tyr	Tyr	Leu	Leu	Tyr	Pro	Leu	Leu	Leu	Ile	Phe	Cys	Cys	Lys	Lys
145					150					155					160
Thr	Lys	Ser	Leu	Arg	Val	Leu	Arg	Asn	Ile	Ser	Ile	Ile	Leu	Phe	Leu
				165					170					175	
Ile	Leu	Thr	Ala	Ser	Ser	Phe	Leu	Pro	Ser	Gly	Phe	Tyr	Thr	Asp	Ile
			180					185					190		
Leu	Asn	Gln	Pro	Asn	Thr	Tyr	Tyr	Leu	Ser	Thr	Leu	Arg	Phe	Pro	Glu
		195					200					205			
Leu	Leu	Ala	Gly	Ser	Leu	Leu	Ala	Val	Tyr	Gly	Gln	Thr	Gln	Asn	Gly
	210					215					220				
Arg	Arg	Gln	Thr	Ala	Asn	Gly	Lys	Arg	Gln	Leu	Leu	Ser	Ser	Leu	Cys
225					230					235				240	
Phe	Gly	Ala	Leu	Leu	Ala	Cys	Leu	Phe	Val	Ile	Asp	Lys	His	Asn	Pro
			245						250					255	
Phe	Ile	Pro	Gly	Met	Thr	Leu	Leu	Leu	Pro	Cys	Leu	Leu	Thr	Ala	Leu
			260					265						270	

Leu	Ile	Arg	Ser	Met	Gln	Tyr	Gly	Thr	Leu	Pro	Thr	Arg	Ile	Leu	Ser	275	280	285	
Ala	Ser	Pro	Ile	Val	Phe	Val	Gly	Lys	Ile	Ser	Tyr	Ser	Leu	Tyr	Leu	290	295	300	
Tyr	His	Trp	Ile	Phe	Ile	Ala	Phe	Ala	His	Tyr	Ile	Thr	Gly	Asp	Lys	305	310	315	320
Gln	Leu	Gly	Leu	Pro	Ala	Val	Ser	Ala	Val	Ala	Ala	Leu	Thr	Ala	Gly	325	330	335	
Phe	Ser	Leu	Leu	Ser	Tyr	Tyr	Leu	Ile	Glu	Gln	Pro	Leu	Arg	Lys	Arg	340	345	350	
Lys	Met	Thr	Phe	Lys	Lys	Ala	Phe	Phe	Cys	Leu	Tyr	Leu	Ala	Pro	Ser	355	360	365	
Leu	Ile	Leu	Val	Gly	Tyr	Asn	Leu	Tyr	Ala	Arg	Gly	Ile	Leu	Lys	Gln	370	375	380	
Glu	His	Leu	Arg	Pro	Leu	Pro	Gly	Ala	Pro	Leu	Ala	Ala	Glu	Asn	His	385	390	395	400
Phe	Pro	Glu	Thr	Val	Leu	Thr	Leu	Gly	Asp	Ser	His	Ala	Gly	His	Leu	405	410	415	
Arg	Gly	Phe	Leu	Asp	Tyr	Val	Gly	Ser	Arg	Glu	Gly	Trp	Lys	Ala	Lys	420	425	430	
Ile	Leu	Ser	Leu	Asp	Ser	Glu	Cys	Leu	Val	Trp	Val	Asp	Glu	Lys	Leu	435	440	445	
Ala	Asp	Asn	Pro	Leu	Cys	Arg	Lys	Tyr	Arg	Asp	Glu	Val	Glu	Lys	Ala	450	455	460	
Glu	Ala	Val	Phe	Ile	Ala	Gln	Phe	Tyr	Asp	Leu	Arg	Met	Gly	Gly	Gln	465	470	475	480
Pro	Val	Pro	Arg	Phe	Glu	Ala	Gln	Ser	Phe	Leu	Ile	Pro	Gly	Phe	Pro	485	490	495	
Ala	Arg	Phe	Arg	Glu	Thr	Val	Lys	Arg	Ile	Ala	Ala	Val	Lys	Pro	Val	500	505	510	
Tyr	Val	Phe	Ala	Asn	Asn	Thr	Ser	Ile	Ser	Arg	Ser	Pro	Leu	Arg	Glu	515	520	525	
Glu	Lys	Leu	Lys	Arg	Phe	Ala	Ala	Asn	Gln	Tyr	Leu	Arg	Pro	Ile	Gln	530	535	540	
Ala	Met	Gly	Asp	Ile	Gly	Lys	Ser	Asn	Gln	Ala	Val	Phe	Asp	Leu	Ile	545	550	555	560
Lys	Asp	Ile	Pro	Asn	Val	His	Trp	Val	Asp	Ala	Gln	Lys	Tyr	Leu	Pro	565	570	575	

Lys Asn Thr Val Glu Ile Tyr Gly Arg Tyr Leu Tyr Gly Asp Gln Asp
580 585 590

His Leu Thr Tyr Phe Gly Ser Tyr Tyr Met Gly Arg Glu Phe His Lys
595 600 605

His Glu Arg Leu Leu Lys Ser Ser His Gly Gly Ala Leu Gln
610 615 620

<210> 831
<211> 1869
<212> DNA
<213> Neisseria meningitidis

<400> 831
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gtcatgattt tccacctgaa taaccgctgg ctgcccggag gattcctggg ggtggacatt 120
ttctttgtca tctcaggatt cctcattacc ggcattcattc tttctgaaat acagaacggt 180
tctttttctt tccgggattt ttataccgcg aggattaagc ggatttatcc tgcttttatt 240
gcgccgctgt cgtcggcttc ggtgattgcc tctcaaactc tcttttacga agatttcaac 300
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cagcaggggt atttcgattt gagtgcgcac gagaaccccg tactgcatat ctggtccttg 420
gcagtagagg aacagtatta cctcctgtat cctcttttgc tgatattttg ctgcaaaaaa 480
acaaaatcgc tacgggtgct gcgtaacatc agcatcatcc tattttctgat tttgactgcc 540
acatcgtttt tgccaagcgg gttttatacc gatattctca accaacccaa tacttattac 600
ctttcgacac tgagggtttcc cgagctggtg gcaggttcgc tgctggcggg ttacgggcaa 660
acgcaaaacg gcagacggca aacagcaaat ggaaaacggc agttgctttc atcactctgc 720
ttcggcgcat tgcttgctcg cctgctcgtg attgacaaac acaatccggt tatcccggga 780
atgacctcgc tccctccctg cctgctgacg gcactgctta tccggagtat gcaatacggg 840
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tccctatacc tgtaccattg gatttttatt gctttcgcgc attacattac aggcgacaaa 960
cagctcggag tgcctgccgt atcggcggtt gccgcgttga cggccggatt ttccctggtg 1020
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gaaatatacg gccgctatct ttacggcgac caagaccacc tgacctattt cggttcttat 1800
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ttgcagtag 1869

<210> 832
<211> 622
<212> PRT
<213> Neisseria meningitidis

<400> 832
Met Gln Ala Val Arg Tyr Arg Pro Glu Ile Asp Gly Leu Arg Ala Val
1 5 10 15

Ala	Val	Leu	Ser	Val	Met	Ile	Phe	His	Leu	Asn	Asn	Arg	Trp	Leu	Pro	20	25	30	
Gly	Gly	Phe	Leu	Gly	Val	Asp	Ile	Phe	Phe	Val	Ile	Ser	Gly	Phe	Leu	35	40	45	
Ile	Thr	Gly	Ile	Ile	Leu	Ser	Glu	Ile	Gln	Asn	Gly	Ser	Phe	Ser	Phe	50	55	60	
Arg	Asp	Phe	Tyr	Thr	Arg	Arg	Ile	Lys	Arg	Ile	Tyr	Pro	Ala	Phe	Ile	65	70	75	80
Ala	Ala	Val	Ser	Leu	Ala	Ser	Val	Ile	Ala	Ser	Gln	Ile	Phe	Leu	Tyr	85	90	95	
Glu	Asp	Phe	Asn	Gln	Met	Arg	Lys	Thr	Val	Glu	Leu	Ser	Ala	Val	Phe	100	105	110	
Leu	Ser	Asn	Ile	Tyr	Leu	Gly	Phe	Gln	Gln	Gly	Tyr	Phe	Asp	Leu	Ser	115	120	125	
Ala	Asp	Glu	Asn	Pro	Val	Leu	His	Ile	Trp	Ser	Leu	Ala	Val	Glu	Glu	130	135	140	
Gln	Tyr	Tyr	Leu	Leu	Tyr	Pro	Leu	Leu	Leu	Ile	Phe	Cys	Cys	Lys	Lys	145	150	155	160
Thr	Lys	Ser	Leu	Arg	Val	Leu	Arg	Asn	Ile	Ser	Ile	Ile	Leu	Phe	Leu	165	170	175	
Ile	Leu	Thr	Ala	Thr	Ser	Phe	Leu	Pro	Ser	Gly	Phe	Tyr	Thr	Asp	Ile	180	185	190	
Leu	Asn	Gln	Pro	Asn	Thr	Tyr	Tyr	Leu	Ser	Thr	Leu	Arg	Phe	Pro	Glu	195	200	205	
Leu	Leu	Ala	Gly	Ser	Leu	Leu	Ala	Val	Tyr	Gly	Gln	Thr	Gln	Asn	Gly	210	215	220	
Arg	Arg	Gln	Thr	Ala	Asn	Gly	Lys	Arg	Gln	Leu	Leu	Ser	Ser	Leu	Cys	225	230	235	240
Phe	Gly	Ala	Leu	Leu	Ala	Cys	Leu	Phe	Val	Ile	Asp	Lys	His	Asn	Pro	245	250	255	
Phe	Ile	Pro	Gly	Met	Thr	Leu	Leu	Leu	Pro	Cys	Leu	Leu	Thr	Ala	Leu	260	265	270	
Leu	Ile	Arg	Ser	Met	Gln	Tyr	Gly	Thr	Leu	Pro	Thr	Arg	Ile	Leu	Ser	275	280	285	
Ala	Ser	Pro	Ile	Val	Phe	Val	Gly	Lys	Ile	Ser	Tyr	Ser	Leu	Tyr	Leu	290	295	300	
Tyr	His	Trp	Ile	Phe	Ile	Ala	Phe	Ala	His	Tyr	Ile	Thr	Gly	Asp	Lys	305	310	315	320

Gln	Leu	Gly	Leu	Pro	Ala	Val	Ser	Ala	Val	Ala	Ala	Leu	Thr	Ala	Gly	325	330	335
Phe	Ser	Leu	Leu	Ser	Tyr	Tyr	Leu	Ile	Glu	Gln	Pro	Leu	Arg	Lys	Arg	340	345	350
Lys	Met	Thr	Phe	Lys	Lys	Ala	Phe	Phe	Cys	Leu	Tyr	Leu	Ala	Pro	Ser	355	360	365
Leu	Ile	Leu	Val	Gly	Tyr	Asn	Leu	Tyr	Ala	Arg	Gly	Ile	Leu	Lys	Gln	370	375	380
Glu	His	Leu	Arg	Pro	Leu	Pro	Gly	Ala	Pro	Leu	Ala	Ala	Glu	Asn	His	385	390	395
Phe	Pro	Glu	Thr	Val	Leu	Thr	Leu	Gly	Asp	Ser	His	Ala	Gly	His	Leu	405	410	415
Arg	Gly	Phe	Leu	Asp	Tyr	Val	Gly	Ser	Arg	Glu	Gly	Trp	Lys	Ala	Lys	420	425	430
Ile	Leu	Ser	Leu	Asp	Ser	Glu	Cys	Leu	Val	Trp	Val	Asp	Glu	Lys	Leu	435	440	445
Ala	Asp	Asn	Pro	Leu	Cys	Arg	Lys	Tyr	Arg	Asp	Glu	Val	Glu	Lys	Ala	450	455	460
Glu	Ala	Val	Phe	Ile	Ala	Gln	Phe	Tyr	Asp	Leu	Arg	Met	Gly	Gly	Gln	465	470	475
Pro	Val	Pro	Arg	Phe	Glu	Ala	Gln	Ser	Phe	Leu	Ile	Pro	Gly	Phe	Pro	485	490	495
Ala	Arg	Phe	Arg	Glu	Thr	Val	Lys	Arg	Ile	Ala	Ala	Val	Lys	Pro	Val	500	505	510
Tyr	Val	Phe	Ala	Asn	Asn	Thr	Ser	Ile	Ser	Arg	Ser	Pro	Leu	Arg	Glu	515	520	525
Glu	Lys	Leu	Lys	Arg	Phe	Ala	Ala	Asn	Gln	Tyr	Leu	Arg	Pro	Ile	Gln	530	535	540
Ala	Met	Gly	Asp	Ile	Gly	Lys	Ser	Asn	Gln	Ala	Val	Phe	Asp	Leu	Ile	545	550	555
Lys	Asp	Ile	Pro	Asn	Val	His	Trp	Val	Asp	Ala	Gln	Lys	Tyr	Leu	Pro	565	570	575
Lys	Asn	Thr	Val	Glu	Ile	Tyr	Gly	Arg	Tyr	Leu	Tyr	Gly	Asp	Gln	Asp	580	585	590
His	Leu	Thr	Tyr	Phe	Gly	Ser	Tyr	Tyr	Met	Gly	Arg	Glu	Phe	His	Lys	595	600	605
His	Glu	Arg	Leu	Leu	Lys	Ser	Ser	Arg	Asp	Gly	Ala	Leu	Gln			610	615	620

<210> 833
 <211> 1869
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 833
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 gtcattatct tccacctgaa taaccgctgg ctgcccggag gattcctggg ggtggacatt 120
 ttctttgtca tctcgggatt cctcattacc aacatcattc tttctgaaat acagaacggt 180
 tctttttctt tccgggattt ttataccgcg aggattaagc ggatttatcc tgcttttatt 240
 gcggccgctg ccttggcttc ggtgattgct tctcaaactc tcttttacga agatttcaac 300
 caaatgagga aaaccataga gctttctacg gttttttgtt ccaatattta tttgggggtc 360
 cgattggggg atttcgattt gactgcccgc gagaaccccg tactgcatat ctggtccttg 420
 gcggtagagg aacagtatta cctcctgtat cctcttttgc tgatattctg ttacaaaaaa 480
 accaaatcac tacgggtgct gcgtaatatc agcatcatcc tgtttctgat tttgaccgca 540
 tcatcgtttt tgccggccgg gttttatacc gacatcctca accaacccaa tacttattac 600
 ctttcgacac tgaggtttcc cgagctgttg gtgggttcgc tgttggcggg ttacgggcaa 660
 acgcaaaacg gcagacggca aacagaaaat ggaaaacggc agttgctttc attactctgt 720
 ttcggcgcat tgcttgtctg cctgttcctg atcgacaaac acgatccggt tatcccggga 780
 ataaccctgc tcttccctgc cctgctgacg gcgctgctta tccggagtat gcaatacggg 840
 acacttccga cccgcattct gtcggcaagc cccatcgtat ttgtcggcaa aatctcttat 900
 tccctatacc tgtaccattg gatttttatt gccttcgccc attacattac aggcgacaaa 960
 cagctcggac tgccctgcgt atcggcggtt gccgcggtga cggccggatt ttccctgttg 1020
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 ttctgccttt atctcgcctc gtccctgatg cttgtcgggt acaacctgta ttcaagaggg 1140
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 tttccggaaa ccgtcttgac cctcggcgac tgcacgccc gacacctgcg ggggtttctg 1260
 gattatgtcg gcggcaggga aggggtggaa gctaaaatcc tgtccctcga ttcggagtgt 1320
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 gttgaaaaag ccgaagctgt tttcattgcc caattctatg atttgaggat gggcggccag 1440
 cccgtgccga gatttgaagc gcaatccttc ctgatacccg gggtcaaagc ccgattcagg 1500
 gaaaccgtca agaggatagc cgccgtcaaa cctgtatatg tttttgcaaa caatacatca 1560
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 cggcctattc gggctatggg cgacatcggc aagagcaatc aggcggtctt tgatttggtt 1680
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 gaaatacacg gacgctatct ttacggcgac caagaccacc tgacctatct cggttcttat 1800
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 ttgcagtag 1869

<210> 834
 <211> 622
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 834
 Met Gln Ala Val Arg Tyr Arg Pro Glu Ile Asp Gly Leu Arg Ala Val
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 Ala Val Leu Ser Val Ile Ile Phe His Leu Asn Asn Arg Trp Leu Pro
 20 25 30
 Gly Gly Phe Leu Gly Val Asp Ile Phe Phe Val Ile Ser Gly Phe Leu
 35 40 45
 Ile Thr Asn Ile Ile Leu Ser Glu Ile Gln Asn Gly Ser Phe Ser Phe
 50 55 60

Arg	Asp	Phe	Tyr	Thr	Arg	Arg	Ile	Lys	Arg	Ile	Tyr	Pro	Ala	Phe	Ile	65	70	75	80
Ala	Ala	Val	Ser	Leu	Ala	Ser	Val	Ile	Ala	Ser	Gln	Ile	Phe	Leu	Tyr	85	90	95	
Glu	Asp	Phe	Asn	Gln	Met	Arg	Lys	Thr	Ile	Glu	Leu	Ser	Thr	Val	Phe	100	105	110	
Leu	Ser	Asn	Ile	Tyr	Leu	Gly	Phe	Arg	Leu	Gly	Tyr	Phe	Asp	Leu	Ser	115	120	125	
Ala	Asp	Glu	Asn	Pro	Val	Leu	His	Ile	Trp	Ser	Leu	Ala	Val	Glu	Glu	130	135	140	
Gln	Tyr	Tyr	Leu	Leu	Tyr	Pro	Leu	Leu	Leu	Ile	Phe	Cys	Tyr	Lys	Lys	145	150	155	160
Thr	Lys	Ser	Leu	Arg	Val	Leu	Arg	Asn	Ile	Ser	Ile	Ile	Leu	Phe	Leu	165	170	175	
Ile	Leu	Thr	Ala	Ser	Ser	Phe	Leu	Pro	Ala	Gly	Phe	Tyr	Thr	Asp	Ile	180	185	190	
Leu	Asn	Gln	Pro	Asn	Thr	Tyr	Tyr	Leu	Ser	Thr	Leu	Arg	Phe	Pro	Glu	195	200	205	
Leu	Leu	Val	Gly	Ser	Leu	Leu	Ala	Val	Tyr	Gly	Gln	Thr	Gln	Asn	Gly	210	215	220	
Arg	Arg	Gln	Thr	Glu	Asn	Gly	Lys	Arg	Gln	Leu	Leu	Ser	Leu	Leu	Cys	225	230	235	240
Phe	Gly	Ala	Leu	Leu	Val	Cys	Leu	Phe	Val	Ile	Asp	Lys	His	Asp	Pro	245	250	255	
Phe	Ile	Pro	Gly	Ile	Thr	Leu	Leu	Leu	Pro	Cys	Leu	Leu	Thr	Ala	Leu	260	265	270	
Leu	Ile	Arg	Ser	Met	Gln	Tyr	Gly	Thr	Leu	Pro	Thr	Arg	Ile	Leu	Ser	275	280	285	
Ala	Ser	Pro	Ile	Val	Phe	Val	Gly	Lys	Ile	Ser	Tyr	Ser	Leu	Tyr	Leu	290	295	300	
Tyr	His	Trp	Ile	Phe	Ile	Ala	Phe	Ala	His	Tyr	Ile	Thr	Gly	Asp	Lys	305	310	315	320
Gln	Leu	Gly	Leu	Pro	Ala	Val	Ser	Ala	Val	Ala	Ala	Leu	Thr	Ala	Gly	325	330	335	
Phe	Ser	Leu	Leu	Ser	Tyr	Tyr	Leu	Ile	Glu	Gln	Pro	Leu	Arg	Lys	Arg	340	345	350	
Lys	Met	Thr	Phe	Lys	Lys	Ala	Phe	Phe	Cys	Leu	Tyr	Leu	Ala	Pro	Ser	355	360	365	

Leu Met Leu Val Gly Tyr Asn Leu Tyr Ser Arg Gly Ile Leu Lys Gln
 370 375 380
 Glu His Leu Arg Pro Leu Pro Gly Thr Pro Val Ala Ala Glu Asn Asn
 385 390 395 400
 Phe Pro Glu Thr Val Leu Thr Leu Gly Asp Ser His Ala Gly His Leu
 405 410 415
 Arg Gly Phe Leu Asp Tyr Val Gly Gly Arg Glu Gly Trp Lys Ala Lys
 420 425 430
 Ile Leu Ser Leu Asp Ser Glu Cys Leu Val Trp Val Asp Glu Lys Leu
 435 440 445
 Ala Asp Asn Pro Leu Cys Arg Lys Tyr Arg Asp Glu Val Glu Lys Ala
 450 455 460
 Glu Ala Val Phe Ile Ala Gln Phe Tyr Asp Leu Arg Met Gly Gly Gln
 465 470 475 480
 Pro Val Pro Arg Phe Glu Ala Gln Ser Phe Leu Ile Pro Gly Phe Lys
 485 490 495
 Ala Arg Phe Arg Glu Thr Val Lys Arg Ile Ala Ala Val Lys Pro Val
 500 505 510
 Tyr Val Phe Ala Asn Asn Thr Ser Ile Ser Arg Ser Pro Leu Arg Glu
 515 520 525
 Glu Lys Leu Lys Arg Phe Ala Ile Asn Gln Tyr Leu Arg Pro Ile Arg
 530 535 540
 Ala Met Gly Asp Ile Gly Lys Ser Asn Gln Ala Val Phe Asp Leu Val
 545 550 555 560
 Lys Asp Ile Pro Asn Val His Trp Val Asp Ala Gln Lys Tyr Leu Pro
 565 570 575
 Lys Asn Thr Val Glu Ile His Gly Arg Tyr Leu Tyr Gly Asp Gln Asp
 580 585 590
 His Leu Thr Tyr Phe Gly Ser Tyr Tyr Met Gly Arg Glu Phe His Lys
 595 600 605
 His Glu Arg Leu Leu Lys His Ser Arg Gly Gly Ala Leu Gln
 610 615 620

<210> 835

<211> 263

<212> DNA

<213> Neisseria meningitidis

<400> 835

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 gtcgtggcaa cgcgggcggg tccgtattgg gtctgttggt ggcgttggcg cgctgattc 120

acttggaaaa	agccggtgcg	ccgatgcgcg	tgctggcgtg	ggcgttgcg	aaagtttcgc	180
tgctgtatgt	tacgctgttc	cggggtacgc	cgctgtttgt	gcagattgtg	atttgggcgt	240
atgtgtggtt	tccgtttttc	gtc				263

<210> 836
 <211> 88
 <212> PRT
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (24)..(24)
 <223> Xaa= any amino acid

<400> 836
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 20 25 30
 Leu Leu Ala Leu Ala Arg Leu Ile His Leu Glu Lys Ala Gly Ala Pro
 35 40 45
 Met Arg Val Leu Ala Trp Ala Leu Arg Lys Val Ser Leu Leu Tyr Val
 50 55 60
 Thr Leu Phe Arg Gly Thr Pro Leu Phe Val Gln Ile Val Ile Trp Ala
 65 70 75 80
 Tyr Val Trp Phe Pro Phe Phe Val
 85

<210> 837
 <211> 747
 <212> DNA
 <213> Neisseria meningitidis

<400> 837	
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gcgttggcgc	gcctgattca cttggaaaaa gccggtgcgc cgatgcgcgt gctggcgtgg 180
gcgttgcgta	aagtttcgct gctgtatgtt acgctgttcc ggggtacgcc gctgtttgtg 240
cagatttgtga	tttgggcgta tgtgtggttt ccgtttttcg tccatccttc agacggcatt 300
ttgggtcagcg	gcgaggcggc aatcgcgctg cgtcgcggat acgggcccgt gattgccggt 360
tctttggcac	tgatcgccaa ctcgggggcg tatactctgtg agattttccg cgcgggcac 420
cagtctatag	acaaaggaca gatggaggcg gcgcgttctt tggggctgac ctatccgcag 480
gcgatgcgct	atgtgattct gccgcaggca ttgcgccgca tgctgccgcc tttggcgagc 540
gagttcatca	cgctcttgaa agacagctcg ctgctgtcgg tcattgctgt ggcggagtgt 600
gcgtatgttc	agaatacgat tacggggcgg tattcggttt atgaagaacc gctttacacc 660
gtcgccctga	tttatctgtt gatgacgact ttcttaggct ggatattcct gcgtttggaa 720
aaacgttaca	atccgcaaca ccgctga 747

<210> 838
 <211> 248
 <212> PRT

<213> Neisseria meningitidis

<400> 838

Met Asp Phe Arg Phe Asp Ile Ile Tyr Glu Tyr Arg Trp Met Phe Leu
1 5 10 15

Tyr Gly Ala Leu Thr Thr Leu Gly Leu Thr Val Val Ala Thr Ala Gly
20 25 30

Gly Ser Val Leu Gly Leu Leu Leu Ala Leu Ala Arg Leu Ile His Leu
35 40 45

Glu Lys Ala Gly Ala Pro Met Arg Val Leu Ala Trp Ala Leu Arg Lys
50 55 60

Val Ser Leu Leu Tyr Val Thr Leu Phe Arg Gly Thr Pro Leu Phe Val
65 70 75 80

Gln Ile Val Ile Trp Ala Tyr Val Trp Phe Pro Phe Phe Val His Pro
85 90 95

Ser Asp Gly Ile Leu Val Ser Gly Glu Ala Ala Ile Ala Leu Arg Arg
100 105 110

Gly Tyr Gly Pro Leu Ile Ala Gly Ser Leu Ala Leu Ile Ala Asn Ser
115 120 125

Gly Ala Tyr Ile Cys Glu Ile Phe Arg Ala Gly Ile Gln Ser Ile Asp
130 135 140

Lys Gly Gln Met Glu Ala Ala Arg Ser Leu Gly Leu Thr Tyr Pro Gln
145 150 155 160

Ala Met Arg Tyr Val Ile Leu Pro Gln Ala Leu Arg Arg Met Leu Pro
165 170 175

Pro Leu Ala Ser Glu Phe Ile Thr Leu Leu Lys Asp Ser Ser Leu Leu
180 185 190

Ser Val Ile Ala Val Ala Glu Leu Ala Tyr Val Gln Asn Thr Ile Thr
195 200 205

Gly Arg Tyr Ser Val Tyr Glu Glu Pro Leu Tyr Thr Val Ala Leu Ile
210 215 220

Tyr Leu Leu Met Thr Thr Phe Leu Gly Trp Ile Phe Leu Arg Leu Glu
225 230 235 240

Lys Arg Tyr Asn Pro Gln His Arg
245

<210> 839

<211> 747

<212> DNA

<213> Neisseria meningitidis

<400> 839
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gcgttggcgc gcctgattca cttggaaaaa gccggtgcgc cgatgcgcgt gctggcggtg 180
gcgttgcgta aggtttcgct gctgtatggt acgctgttcc ggggtacgcc gctgtttgtg 240
cagattgtga tttgggcgta tgtgtggtt ccgtttttcg tccatccttc agacggcatt 300
ttggttagcg gcgagggcgc aatcgcgctg cgtcgcggat acggggccgct gattgccggt 360
tctttggcac tgatcgccaa ctcgggggcg tatatctgtg agattttccg cgcgggcatc 420
cagtctatag acaaaggaca gatggaggcg gcgcgttctt tggggctgac ctatccgcag 480
gcgatgcgct atgtgattct gccgcaggca ttgcgccgta tgctgccgcc tttggcgagc 540
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gcgtatgttc agaatacgat tacggggccg tattcggtt atgaagaacc gctttacacc 660
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aaacgttaca atccgcaaca ccgctga 747

<210> 840
<211> 248
<212> PRT
<213> Neisseria meningitidis

<400> 840
Met Asp Phe Arg Phe Asp Ile Ile Tyr Glu Tyr Arg Trp Met Phe Leu
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Tyr Gly Ala Leu Thr Thr Leu Gly Leu Thr Val Val Ala Thr Ala Gly
20 25 30
Gly Ser Val Leu Gly Leu Leu Leu Ala Leu Ala Arg Leu Ile His Leu
35 40 45
Glu Lys Ala Gly Ala Pro Met Arg Val Leu Ala Trp Ala Leu Arg Lys
50 55 60
Val Ser Leu Leu Tyr Val Thr Leu Phe Arg Gly Thr Pro Leu Phe Val
65 70 75 80
Gln Ile Val Ile Trp Ala Tyr Val Trp Phe Pro Phe Phe Val His Pro
85 90 95
Ser Asp Gly Ile Leu Val Ser Gly Glu Ala Ala Ile Ala Leu Arg Arg
100 105 110
Gly Tyr Gly Pro Leu Ile Ala Gly Ser Leu Ala Leu Ile Ala Asn Ser
115 120 125
Gly Ala Tyr Ile Cys Glu Ile Phe Arg Ala Gly Ile Gln Ser Ile Asp
130 135 140
Lys Gly Gln Met Glu Ala Ala Arg Ser Leu Gly Leu Thr Tyr Pro Gln
145 150 155 160
Ala Met Arg Tyr Val Ile Leu Pro Gln Ala Leu Arg Arg Met Leu Pro
165 170 175
Pro Leu Ala Ser Glu Phe Ile Thr Leu Leu Lys Asp Ser Ser Leu Leu
180 185 190

Ser Val Ile Ala Val Ala Glu Leu Ala Tyr Val Gln Asn Thr Ile Thr
 195 200 205

Gly Arg Tyr Ser Val Tyr Glu Glu Pro Leu Tyr Thr Val Ala Leu Ile
 210 215 220

Tyr Leu Leu Met Thr Thr Phe Leu Gly Trp Ile Phe Leu Arg Leu Glu
 225 230 235 240

Lys Arg Tyr Asn Pro Gln His Arg
 245

<210> 841 .
 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

<220>
 <221> misc_feature
 <222> (1)..(8)
 <223> N = Unknown

<400> 841
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8

<210> 842
 <211> 174
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 842
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 20 25 30

Gly Ser Val Leu Gly Leu Leu Leu Ala Leu Ala Arg Leu Ile His Leu
 35 40 45

Glu Lys Ala Gly Ala Pro Met Arg Val Leu Ala Trp Ala Leu Arg Lys
 50 55 60

Val Ser Leu Leu Tyr Val Thr Leu Phe Arg Gly Thr Pro Leu Phe Val
 65 70 75 80

Gln Ile Val Ile Trp Ala Tyr Val Trp Phe Pro Phe Phe Val Ile Leu
 85 90 95

His Thr Ala Phe Leu Gly Asn Ala Met Arg Gln Ser Arg Arg Val Pro
 100 105 110

Asp Lys Gly Arg Trp Ile Ala Gly Ser Leu Glu Leu Asn Cys Gln Pro
 115 120 125

Arg Gly Arg Lys Thr Arg Gly Glu Phe Pro Pro Gly Glu Ser Asn Leu

130

135

140

Gly Thr Glu Pro Arg Asn Pro Leu Ser Met Gly Gln Arg Arg Phe Pro
 145 150 155 160

Gly Cys Glu Asn Trp Tyr Pro Pro Gln Asn Phe Ile Lys Lys
 165 170

<210> 843
 <211> 747
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 843
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 acgaccttgg ggctgacggg cgtggcgacg gcgggcggtt cggatttggg tctgttggtg 120
 gcgttggcgc gcctgattca cttggaaaaa gccgggtgcgc cgatgcgcgt gctggcgtgg 180
 gcgttgcgta aggtttcgct gctgtacgtt accctgttcc ggggtacgcc gctgtttgtg 240
 cagattgtga tttgggcgta tgtgtggtt cegtttttcg tccatccttc agacggcatt 300
 ttggtcagcg gcgaggcggc aatcgcgctg cgtcgcggtt acggggccgt gattgccggg 360
 tctttggcac tgategccaa ctcgggggcg tatactgtg agattttccg cgcgggcatc 420
 cagtctatag acaaaggaca gatggaggcg gcgtgttctt tgggactgac ctatccgcag 480
 gcgatgcgct atgtgattct gccgcaggca ttgcgcgta tgctgccgcc tttggcgagc 540
 gagttcatca cgctcttgaa agacagctcg ctgctgtcgg tcattgctgt gccggagttg 600
 gcgtatgttc agaatacgat tacgggcccgg tattcggtt atgaagaacc gctttacacc 660
 gccgccctga tttatctgtt gatgacgact ttcttaggct ggatattcct gcgtttggaa 720
 aaacgttaca atccgcaaca ccgctga 747

<210> 844
 <211> 248
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 844
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 Tyr Gly Ala Leu Thr Thr Leu Gly Leu Thr Val Val Ala Thr Ala Gly
 20 25 30
 Gly Ser Val Leu Gly Leu Leu Leu Ala Leu Ala Arg Leu Ile His Leu
 35 40 45
 Glu Lys Ala Gly Ala Pro Met Arg Val Leu Ala Trp Ala Leu Arg Lys
 50 55 60
 Val Ser Leu Leu Tyr Val Thr Leu Phe Arg Gly Thr Pro Leu Phe Val
 65 70 75 80
 Gln Ile Val Ile Trp Ala Tyr Val Trp Phe Pro Phe Phe Val His Pro
 85 90 95
 Ser Asp Gly Ile Leu Val Ser Gly Glu Ala Ala Ile Ala Leu Arg Arg
 100 105 110
 Gly Tyr Gly Pro Leu Ile Ala Gly Ser Leu Ala Leu Ile Ala Asn Ser

115	120	125
Gly Ala Tyr Ile Cys Glu Ile Phe Arg Ala Gly Ile Gln Ser Ile Asp 130 135 140		
Lys Gly Gln Met Glu Ala Ala Arg Ser Leu Gly Leu Thr Tyr Pro Gln 145 150 155 160		
Ala Met Arg Tyr Val Ile Leu Pro Gln Ala Leu Arg Arg Met Leu Pro 165 170 175		
Pro Leu Ala Ser Glu Phe Ile Thr Leu Leu Lys Asp Ser Ser Leu Leu 180 185 190		
Ser Val Ile Ala Val Ala Glu Leu Ala Tyr Val Gln Asn Thr Ile Thr 195 200 205		
Gly Arg Tyr Ser Val Tyr Glu Glu Pro Leu Tyr Thr Val Ala Leu Ile 210 215 220		
Tyr Leu Leu Met Thr Thr Phe Leu Gly Trp Ile Phe Leu Arg Leu Glu 225 230 235 240		
Lys Arg Tyr Asn Pro Gln His Arg 245		

<210> 845
 <211> 583
 <212> DNA
 <213> Neisseria meningitidis

<400> 845
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 gggtttaccg cgctcgccgt cggcttcacg ctgctcgcca agctgcgtga gcttcaccat 180
 cacgaactct tacgtaaaca ctacgtccgc acttattacy tgctccaact ctttgccgcc 240
 gcaggctagt ttgtggacag gcgcggcgwa attacaaaac ctgcccgcgt ccgcgcccct 300
 gcacctgatt accctcggcg gcatgatggg cggcgtgatg atgggtgtggc tgaccgcccg 360
 actgtggcac agcggcttta ccaaactcga ctaccccaaa ctctgccgca ttgccgtccc 420
 catccttttc gccgcgcgcg tctcgcgcgc tttcttgtrg aacgtgaacc cgrtattttt 480
 cattaccgtt cctgcgattc tgaccgcgcg cgtattcgta ctgtatcttt tcregtttat 540
 accgatattt cgggcgaatg cgtttacaga cgatccggar tar 583

<210> 846
 <211> 193
 <212> PRT
 <213> Neisseria meningitidis

<220>
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 <222> (90)..(90)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (153)..(153)

<223> Xaa= any amino acid

<220>

<221> misc_feature

<222> (158)..(158)

<223> Xaa= any amino acid

<220>

<221> misc_feature

<222> (178)..(178)

<223> Xaa= any amino acid

<400> 846

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Tyr Lys Asn Ile Ala Ile Thr Phe Leu Leu Leu His Ala Ala Ala Glu
20 25 30

Leu Trp Leu Pro Ala Gln Thr Ala Gly Phe Thr Ala Leu Ala Val Gly
35 40 45

Phe Ile Leu Leu Ala Lys Leu Arg Glu Leu His His His Glu Leu Leu
50 55 60

Arg Lys His Tyr Val Arg Thr Tyr Tyr Leu Leu Gln Leu Phe Ala Ala
65 70 75 80

Ala Gly Ser Leu Trp Thr Gly Ala Ala Xaa Leu Gln Asn Leu Pro Ala
85 90 95

Ser Ala Pro Leu His Leu Ile Thr Leu Gly Gly Met Met Gly Gly Val
100 105 110

Met Met Val Trp Leu Thr Ala Gly Leu Trp His Ser Gly Phe Thr Lys
115 120 125

Leu Asp Tyr Pro Lys Leu Cys Arg Ile Ala Val Pro Ile Leu Phe Ala
130 135 140

Ala Ala Val Ser Arg Ala Phe Leu Xaa Asn Val Asn Pro Xaa Phe Phe
145 150 155 160

Ile Thr Val Pro Ala Ile Leu Thr Ala Ala Val Phe Val Leu Tyr Leu
165 170 175

Phe Xaa Phe Ile Pro Ile Phe Arg Ala Asn Ala Phe Thr Asp Asp Pro
180 185 190

Glu

<210> 847

<211> 1074

<212> DNA

<213> Neisseria meningitidis

<400> 847

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gcatacggcg	gttttttgac	tgcggttttg	ttggactgga	cgggtttttc	gggtaacctg	180
aaacctgtcg	cgactttgat	ggcggcatta	ttgctcgccg	catccgctat	actgcccttt	240
tcgcccga	ctgcctcgtt	tttcgtcgcc	gcctattggc	tggtgttgct	gctgttctgc	300
gcccggctga	tttggctaga	ccgaaacacc	gacaacttcg	ccctgcta	gttacttgcc	360
gcgttcactg	tttttcagac	ggcatatgcc	gtcagcggcg	atttgaacct	gttgcgcgcg	420
caagtgcac	taaatatggc	ggcggtgatg	ttcgtatccg	tgcgcgctcag	tattcttttg	480
ggcgcggaag	ccctgaaaga	atgccgtctg	aaagaccctg	tttttattcc	aaatatcggt	540
tataaaaaca	tcgccattac	tttcctgctc	ttgcacgcgc	ccgccgaact	ttggctgccc	600
gcgcaaaccg	cggtttttac	cgcgctcgcc	gtcggttcca	tcctgctcgc	caagctgcgt	660
gagcttcacc	atcacgaact	cttacgtaaa	cactacgtcc	gcacttatta	cctgctccaa	720
ctctttgccg	ccgcaggcta	tttgtggaca	ggcgcggcga	aattacaaaa	cctgcccgcg	780
tccgcgcccc	tgcacctgat	taccctcggc	ggcatgatgg	gcggcggtgat	gatgggtgtg	840
ctgaccgcgc	gactgtggca	cagcggtttt	accaaactcg	actaccccaa	actctgccgc	900
attgccgtcc	ccatcctttt	cgccgcgcgc	gtctcgcgcg	ctttcttgat	gaacgtgaac	960
ccgatatttt	tcattaccgt	tcctgcgatt	ctgaccgcgc	ccgtattcgt	actgtatctt	1020
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<210> 848

<211> 357

<212> PRT

<213> Neisseria meningitidis

<400> 848

Met	Arg	Pro	Phe	Phe	Val	Gly	Ala	Ala	Val	Leu	Ala	Ile	Leu	Gly	Ala
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Leu	Val	Phe	Phe	Ile	Asn	Pro	Gly	Ala	Ile	Val	Leu	His	Arg	Gln	Ile
			20					25					30		
Phe	Leu	Glu	Leu	Met	Leu	Pro	Ala	Ala	Tyr	Gly	Gly	Phe	Leu	Thr	Ala
		35					40					45			
Ala	Leu	Leu	Asp	Trp	Thr	Gly	Phe	Ser	Gly	Asn	Leu	Lys	Pro	Val	Ala
		50				55					60				
Thr	Leu	Met	Ala	Ala	Leu	Leu	Leu	Ala	Ala	Ser	Ala	Ile	Leu	Pro	Phe
65					70				75					80	
Ser	Pro	Gln	Thr	Ala	Ser	Phe	Phe	Val	Ala	Ala	Tyr	Trp	Leu	Val	Leu
			85					90					95		
Leu	Leu	Phe	Cys	Ala	Arg	Leu	Ile	Trp	Leu	Asp	Arg	Asn	Thr	Asp	Asn
			100					105					110		
Phe	Ala	Leu	Leu	Met	Leu	Leu	Ala	Ala	Phe	Thr	Val	Phe	Gln	Thr	Ala
		115					120					125			
Tyr	Ala	Val	Ser	Gly	Asp	Leu	Asn	Leu	Leu	Arg	Ala	Gln	Val	His	Leu
	130					135					140				
Asn	Met	Ala	Ala	Val	Met	Phe	Val	Ser	Val	Arg	Val	Ser	Ile	Leu	Leu
145					150					155				160	

gcgttcactg	tttttcagac	ggcatatgcc	gtcagcggcg	atttgaacct	gttgcgcgcg	420
caagtgcac	taaatatggc	ggcgggtgatg	ttcgtatccg	tgcgcgtcag	tattcttttg	480
ggcgcggaag	ccctgaaaga	atgccgtctg	aaagaccag	tattcatccc	caatgtcgtc	540
tataaaaaca	tcgccattac	cttcctgctc	ctgcacgccg	ccgccgaact	ttggctgcct	600
gcgcaaacgg	cgggttttac	ctcgcctgcc	gtcggcttta	tcctgcttgc	caagctgcgt	660
gagcttcacc	atcacgaact	cctgcgcaaa	cactacgtcc	gcacttatta	cctgctccaa	720
ctctttgccg	ccgcaggcta	tttgtggaca	ggcgcggcga	aattacaaaa	cctgcccgcc	780
tccgcgcccc	tgcacctgat	taccctcgg	ggcatgatgg	gcagcgtgat	gatggtgtgg	840
ctgactgccg	gactgtggca	cagcggcttt	accaagctcg	actacccgaa	actctgccgc	900
atcgccgtcc	ccatcctntt	cgcgcggcc	gtttcgcgcg	ctgttttaat	gaacgtaaac	960
ccgatattct	tcacaccgt	ccccgcaatt	ctgaccgccg	ccgtgttcgt	gctttacctg	1020
ctgacattcg	taccgatctt	tcgggcgaac	gcgtttacag	acgatccgga	ataa	1074

<210> 850

<211> 357

<212> PRT

<213> Neisseria meningitidis

<400> 850

Met Arg Pro Phe Phe Val Gly Ala Ala Val Leu Ala Ile Leu Gly Ala	
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Leu Val Phe Phe Ile Asn Pro Gly Ala Ile Val Leu His Arg Gln Ile	
20 25 30	
Phe Leu Glu Leu Met Leu Pro Ala Ala Tyr Gly Gly Phe Leu Thr Ala	
35 40 45	
Ala Leu Leu Asp Trp Thr Gly Phe Ser Gly Asn Leu Lys Pro Val Ala	
50 55 60	
Thr Leu Met Ala Ala Leu Leu Leu Ala Ala Ser Ala Ile Leu Pro Phe	
65 70 75 80	
Ser Pro Gln Thr Ala Ser Phe Phe Val Ala Ala Tyr Trp Leu Val Leu	
85 90 95	
Leu Leu Phe Cys Ala Arg Leu Ile Trp Leu Asp Arg Asn Thr Asp Asn	
100 105 110	
Phe Ala Leu Leu Met Leu Leu Ala Ala Phe Thr Val Phe Gln Thr Ala	
115 120 125	
Tyr Ala Val Ser Gly Asp Leu Asn Leu Leu Arg Ala Gln Val His Leu	
130 135 140	
Asn Met Ala Ala Val Met Phe Val Ser Val Arg Val Ser Ile Leu Leu	
145 150 155 160	
Gly Ala Glu Ala Leu Lys Glu Cys Arg Leu Lys Asp Pro Val Phe Ile	
165 170 175	
Pro Asn Val Val Tyr Lys Asn Ile Ala Ile Thr Phe Leu Leu Leu His	
180 185 190	
Ala Ala Ala Glu Leu Trp Leu Pro Ala Gln Thr Ala Gly Phe Thr Ser	

195	200	205
Leu Ala Val Gly Phe Ile 210	Leu Leu Ala Lys 215	Leu Arg Glu Leu His His 220
His Glu Leu Leu Arg 225	Lys His Tyr Val Arg Thr 230	Tyr Tyr Leu Leu Gln 235 240
Leu Phe Ala Ala 245	Ala Gly Tyr Leu Trp Thr 250	Gly Ala Ala Lys Leu Gln 255
Asn Leu Pro Ala Ser Ala 260	Pro Leu His Leu Ile Thr 265	Leu Gly Gly Met 270
Met Gly Ser Val Met Met 275	Val Trp Leu Thr Ala Gly 280	Leu Trp His Ser 285
Gly Phe Thr Lys Leu Asp 290	Tyr Pro Lys Leu Cys 295	Arg Ile Ala Val Pro 300
Ile Leu Phe Ala Ala 305	Ala Val Ser Arg Ala 310	Val Leu Met Asn Val Asn 315 320
Pro Ile Phe Phe Ile 325	Thr Val Pro Ala Ile 330	Leu Thr Ala Ala Val Phe 335
Val Leu Tyr Leu Leu Thr 340	Phe Val Pro Ile Phe 345	Arg Ala Asn Ala Phe 350
Thr Asp Asp Pro Glu 355		

<210> 851
 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

<220>
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 <222> (1)..(8)
 <223> N = Unknown

<400> 851
 nnnnnnnn

8

<210> 852
 <211> 364
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 852
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 1 5 10 15
 Ala Val Leu Ala Ile Leu Gly Ala Leu Val Phe Phe His Gln Pro Arg
 20 25 30

Arg	Tyr	His	Pro	Ala	Pro	Pro	Asn	Phe	Leu	Gly	Thr	Tyr	Ala	Ala	Gly	35	40	45
Cys	Ile	Arg	Arg	Phe	Phe	Asp	Tyr	Arg	Phe	Val	Gly	Pro	Asp	Gly	Phe	50	55	60
Phe	Arg	Gln	Pro	Glu	Thr	Cys	Arg	Tyr	Phe	Asp	Gly	Gly	Val	Val	Ala	65	70	75
Cys	Cys	Gly	Cys	Phe	Ile	Ala	Val	Phe	Thr	Ala	Thr	Cys	Arg	Ile	Phe	85	90	95
Arg	Arg	Arg	Leu	Leu	Ala	Gly	Val	Ala	Ala	Val	Leu	Arg	Leu	Ala	Asp	100	105	110
Leu	Ala	Arg	Arg	Gln	His	Arg	Thr	Leu	Arg	Ser	Val	Asp	Val	Thr	Ala	115	120	125
Ala	Phe	Thr	Val	Phe	Gln	Thr	Ala	Tyr	Ala	Val	Ser	Gly	Asp	Leu	Asn	130	135	140
Leu	Leu	Arg	Ala	Gln	Val	His	Leu	Asn	Met	Ala	Ala	Val	Met	Phe	Val	145	150	155
Ser	Val	Arg	Val	Ser	Val	Leu	Leu	Gly	Thr	Glu	Thr	Leu	Lys	Glu	Cys	165	170	175
Arg	Leu	Lys	Asp	Pro	Val	Phe	Ile	Pro	Asn	Val	Ile	Tyr	Lys	Asn	Ile	180	185	190
Ala	Ile	Thr	Leu	Leu	Leu	His	Ala	Ala	Ala	Glu	Leu	Trp	Leu	Pro	Ala	195	200	205
Gln	Thr	Ala	Gly	Phe	Thr	Ala	Leu	Ala	Val	Gly	Phe	Ile	Leu	Leu	Ala	210	215	220
Lys	Leu	Arg	Glu	Leu	His	His	His	Glu	Leu	Leu	Arg	Lys	His	Tyr	Val	225	230	235
Arg	Thr	Tyr	Tyr	Leu	Leu	Gln	Leu	Phe	Ala	Ala	Ala	Gly	Tyr	Leu	Trp	245	250	255
Thr	Gly	Ala	Ala	Lys	Leu	Gln	Asn	Leu	Pro	Ala	Ser	Ala	Pro	Leu	His	260	265	270
Leu	Ile	Thr	Leu	Gly	Gly	Met	Thr	Gly	Gly	Val	Met	Met	Val	Trp	Leu	275	280	285
Thr	Ala	Gly	Leu	Trp	His	Ser	Gly	Phe	Thr	Lys	Leu	Asp	Tyr	Pro	Lys	290	295	300
Leu	Cys	Arg	Ile	Ala	Val	Ser	Ile	Leu	Phe	Ala	Ser	Ala	Val	Ser	Arg	305	310	315
Ala	Val	Leu	Met	Asn	Val	Asn	Pro	Ile	Phe	Phe	Ile	Thr	Val	Pro	Glu	325	330	335

Ile Leu Thr Ala Ala Val Phe Met Leu Tyr Leu Leu Thr Phe Val Pro
 340 345 350

Ile Phe Arg Ala Asn Ala Phe Thr Asp Asp Pro Glu
 355 360

<210> 853
 <211> 1071
 <212> DNA
 <213> *Neisseria gonorrhoeae*

<400> 853
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 gcatacggcg gttttttgac taccgctttg ttggaccgga cgggtttttc aggcaacctg 180
 aaacctgccg ctactttgat ggcggtggtg ttgcttggtg cggctgtttt attgccgttt 240
 ttaccgcaac ttgccgcatt tttcgtcgcc gcctattggc tgggtgttgct gctgttctgc 300
 gcctggctga tttggctcga ccgcaacacc gacaacttcg ctctgttgat gttacttgcc 360
 gcattttaccg tttttcagac ggccatgccc gtcagcggcg atttgaactt actgcgcgcg 420
 caagtgcatt tgaatatggc ggcggtcatg ttcgatccg tccgcgtcag cgtccttttg 480
 ggcacggaaa ccctgaaaga atgccgtctg aaagaccccg tattcatccc caacgttatc 540
 tataaaaaaca tcgccatcac cctgctgctg cagcgcgcgc ccgaactttg gctgcccgcg 600
 caaacgcgcg gttttactgc gcttgccgctc ggcttcatcc tgctcgccaa gctgcgcgaa 660
 ctgcaccatc acgaactctt acgcaaacac tacgtccgca cttattacct gctccagctc 720
 tttgccgcgc caggttatct gtggacaggc gcggcgaaac tgcaaaacct gccgcctcc 780
 gcgcccctgc acctgattac cctcggcggc atgacgggtg gcgtgatgat ggtgtggctg 840
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 gccgtctcca tcttttgcg ctccgcgctt tcgcgcgctg ttttaatgaa cgtgaatccg 960
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<210> 854
 <211> 356
 <212> PRT
 <213> *Neisseria gonorrhoeae*

<400> 854
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 Phe Leu Glu Leu Met Leu Pro Ala Ala Tyr Gly Gly Phe Leu Thr Thr
 35 40 45
 Ala Leu Leu Asp Arg Thr Gly Phe Ser Gly Asn Leu Lys Pro Ala Ala
 50 55 60
 Thr Leu Met Ala Val Leu Leu Val Ala Ala Val Leu Leu Pro Phe
 65 70 75 80
 Leu Pro Gln Leu Ala Ala Phe Phe Val Ala Ala Tyr Trp Leu Val Leu
 85 90 95
 Leu Leu Phe Cys Ala Trp Leu Ile Trp Leu Asp Arg Asn Thr Asp Asn

100	105	110
Phe Ala Leu Leu Met Leu Leu Ala Ala Phe Thr Val Phe Gln Thr Ala 115 120 125		
Tyr Ala Val Ser Gly Asp Leu Asn Leu Leu Arg Ala Gln Val His Leu 130 135 140		
Asn Met Ala Ala Val Met Phe Val Ser Val Arg Val Ser Val Leu Leu 145 150 155 160		
Gly Thr Glu Thr Leu Lys Glu Cys Arg Leu Lys Asp Pro Val Phe Ile 165 170 175		
Pro Asn Val Ile Tyr Lys Asn Ile Ala Ile Thr Leu Leu Leu His Ala 180 185 190		
Ala Ala Glu Leu Trp Leu Pro Ala Gln Thr Ala Gly Phe Thr Ala Leu 195 200 205		
Ala Val Gly Phe Ile Leu Leu Ala Lys Leu Arg Glu Leu His His His 210 215 220		
Glu Leu Leu Arg Lys His Tyr Val Arg Thr Tyr Tyr Leu Leu Gln Leu 225 230 235 240		
Phe Ala Ala Ala Gly Tyr Leu Trp Thr Gly Ala Ala Lys Leu Gln Asn 245 250 255		
Leu Pro Ala Ser Ala Pro Leu His Leu Ile Thr Leu Gly Gly Met Thr 260 265 270		
Gly Gly Val Met Met Val Trp Leu Thr Ala Gly Leu Trp His Ser Gly 275 280 285		
Phe Thr Lys Leu Asp Tyr Pro Lys Leu Cys Arg Ile Ala Val Ser Ile 290 295 300		
Leu Phe Ala Ser Ala Val Ser Arg Ala Val Leu Met Asn Val Asn Pro 305 310 315 320		
Ile Phe Phe Ile Thr Val Pro Glu Ile Leu Thr Ala Ala Val Phe Met 325 330 335		
Leu Tyr Leu Leu Thr Phe Val Pro Ile Phe Arg Ala Asn Ala Phe Thr 340 345 350		
Asp Asp Pro Glu 355		

<210> 855
 <211> 362
 <212> DNA
 <213> Neisseria meningitidis

 <400> 855


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aaaccggctg ccacgcattt ttgggatatt ggcggcgaga gtccgccgtc tttaggggac      180
tacgagatac cgctttcaga cggcaatagt tccgtcaggg caaacgaata tgaatccgca      240
caacaatctt acttttacag gaaaataggg aagtttgaag ctgcgggctg gattggcgta      300
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ag                                                                                   362

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<210> 856
<211> 121
<212> PRT
<213> Neisseria meningitidis

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<220>
<221> misc_feature
<222> (94)..(94)
<223> Xaa= any amino acid

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Phe Thr Val Ala Gly Cys Arg Leu Ala Gly Trp Tyr Glu Cys Ser Ser
          20          25          30

Leu Thr Gly Trp Cys Lys Pro Arg Lys Pro Ala Ala Ile Asp Phe Trp
          35          40          45

Asp Ile Gly Gly Glu Ser Pro Pro Ser Leu Gly Asp Tyr Glu Ile Pro
          50          55          60

Leu Ser Asp Gly Asn Ser Ser Val Arg Ala Asn Glu Tyr Glu Ser Ala
65          70          75          80

Gln Gln Ser Tyr Phe Tyr Arg Lys Ile Gly Lys Phe Glu Xaa Cys Gly
          85          90          95

Leu Asp Trp Arg Thr Arg Asp Gly Lys Pro Leu Ile Glu Thr Phe Lys
          100         105         110

Gln Gly Gly Phe Asp Cys Leu Glu Lys
          115         120

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<210> 857
<211> 408
<212> DNA
<213> Neisseria meningitidis

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<400> 857
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aaaccggctg ccacgcattt ttgggatatt ggcggcgaga gtccgccgtc tttaggggac      180
tacgagatac cgctttcaga cggcaatcgt tccgtcaggg caaacgaata tgaatccgca      240
caacaatctt acttttacag gaaaataggg aagtttgaag cctgcgggct ggattggcgt      300
acgcgtgacg gcaaaccctt gattgagacg ttcaaacagg gaggatttga ctgcttgga      360
aagcaggggt tgccggcgcaa cggctctgtcc gagcgcgtcc gatggtaa      408

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<210> 858
<211> 135
<212> PRT
<213> Neisseria meningitidis

<400> 858
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Phe Thr Val Ala Gly Cys Arg Leu Ala Gly Trp Tyr Glu Cys Ser Ser
20 25 30
Leu Thr Gly Trp Cys Lys Pro Arg Lys Pro Ala Ala Ile Asp Phe Trp
35 40 45
Asp Ile Gly Gly Glu Ser Pro Pro Ser Leu Gly Asp Tyr Glu Ile Pro
50 55 60
Leu Ser Asp Gly Asn Arg Ser Val Arg Ala Asn Glu Tyr Glu Ser Ala
65 70 75 80
Gln Gln Ser Tyr Phe Tyr Arg Lys Ile Gly Lys Phe Glu Ala Cys Gly
85 90 95
Leu Asp Trp Arg Thr Arg Asp Gly Lys Pro Leu Ile Glu Thr Phe Lys
100 105 110
Gln Gly Gly Phe Asp Cys Leu Glu Lys Gln Gly Leu Arg Arg Asn Gly
115 120 125
Leu Ser Glu Arg Val Arg Trp
130 135

<210> 859
<211> 408
<212> DNA
<213> Neisseria meningitidis

<400> 859
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ggctgccggt tggcaggttg gtatgagtgt tcgtccctgt ccggctgggtg taagccgaga 120
aaacctgccg ccatcgattt ttgggatatt ggcggcgaga gtcctccgtc tttagaggac 180
tacgagatac cgctttcaga cggcaatcgt tccgtcaggg caaacgaata tgaatccgca 240
caacaatctt acttttacag gaaaataggg aagtttgaag cctgcggggtt ggattggcgt 300
acgcgtgacg gcaaaccctt gattgagacg ttcaaacagg aaggttttga ttgtttgaaa 360
aagcaggggt tgcggcgcaa cggctctgtcc gagcgcgtcc gatggtaa 408

<210> 860
<211> 135
<212> PRT
<213> Neisseria meningitidis

<400> 860
Met Glu Ile Arg Ala Ile Lys Tyr Thr Ala Met Ala Ala Leu Leu Ala
1 5 10 15

Phe Thr Val Ala Gly Cys Arg Leu Ala Gly Trp Tyr Glu Cys Ser Ser
 20 25 30
 Leu Ser Gly Trp Cys Lys Pro Arg Lys Pro Ala Ala Ile Asp Phe Trp
 35 40 45
 Asp Ile Gly Gly Glu Ser Pro Pro Ser Leu Glu Asp Tyr Glu Ile Pro
 50 55 60
 Leu Ser Asp Gly Asn Arg Ser Val Arg Ala Asn Glu Tyr Glu Ser Ala
 65 70 75 80
 Gln Gln Ser Tyr Phe Tyr Arg Lys Ile Gly Lys Phe Glu Ala Cys Gly
 85 90 95
 Leu Asp Trp Arg Thr Arg Asp Gly Lys Pro Leu Ile Glu Thr Phe Lys
 100 105 110
 Gln Glu Gly Phe Asp Cys Leu Lys Lys Gln Gly Leu Arg Arg Asn Gly
 115 120 125
 Leu Ser Glu Arg Val Arg Trp
 130 135

<210> 861
 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

<220>
 <221> misc_feature
 <222> (1)..(8)
 <223> N = Unknown

<400> 861
 nnnnnnnn

8

<210> 862
 <211> 135
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 862
 Met Glu Ile Arg Val Ile Lys Tyr Thr Ala Thr Ala Ala Leu Phe Ala
 1 5 10 15
 Phe Thr Val Ala Gly Cys Arg Leu Ala Gly Trp Tyr Glu Cys Leu Ser
 20 25 30
 Leu Ser Gly Trp Cys Lys Pro Arg Lys Pro Ala Ala Ile Asp Phe Trp
 35 40 45
 Asp Ile Gly Gly Glu Ser Pro Leu Ser Leu Glu Asp Tyr Glu Ile Pro
 50 55 60
 Leu Ser Asp Gly Asn Arg Ser Val Arg Ala Asn Glu Tyr Glu Ser Ala

65		70		75		80
Gln Lys Ser Tyr Phe Tyr Arg Lys Ile Gly Lys Phe Glu Ala Cys Gly						
	85			90		95
Leu Asp Trp Arg Thr Arg Asp Gly Lys Pro Leu Val Glu Arg Phe Lys						
	100		105		110	
Gln Glu Gly Phe Asp Cys Leu Glu Lys Gln Gly Leu Arg Arg Asn Gly						
	115		120		125	
Leu Ser Glu Arg Val Arg Trp						
	130		135			

<210> 863
 <211> 408
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 863							
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aaacctgccg	ccatcgattt	ttgggatatt	ggcggcgaga	gtccgctgtc	tttagaggac		180
tacgagatac	cgctttcaga	cggcaatcgt	tccgtcaggg	caaacgaata	tgaatccgcg		240
caaaaatctt	acttttatag	gaaaataggg	aagtttgaag	cctgcggggtt	ggattggcgt		300
acgcgtgacg	gcaaaccttt	ggttgagagg	ttcaaacagg	aaggtttcga	ctgtttggaa		360
aagcaggggt	tgcggcgcaa	cggcctgtcc	gagcgcgtcc	gatggtaa			408

<210> 864
 <211> 135
 <212> PRT
 <213> Neisseria gonorrhoeae

<400> 864								
Met Glu Ile Arg Val Ile Lys Tyr Thr Ala Thr Ala Ala Leu Phe Ala								
1		5				10		15
Phe Thr Val Ala Gly Cys Arg Leu Ala Gly Trp Tyr Glu Cys Ser Ser								
	20			25			30	
Leu Ser Gly Trp Cys Lys Pro Arg Lys Pro Ala Ala Ile Asp Phe Trp								
	35			40			45	
Asp Ile Gly Gly Glu Ser Pro Leu Ser Leu Glu Asp Tyr Glu Ile Pro								
	50			55			60	
Leu Ser Asp Gly Asn Arg Ser Val Arg Ala Asn Glu Tyr Glu Ser Ala								
65		70			75			80
Gln Lys Ser Tyr Phe Tyr Arg Lys Ile Gly Lys Phe Glu Ala Cys Gly								
	85			90			95	
Leu Asp Trp Arg Thr Arg Asp Gly Lys Pro Leu Val Glu Arg Phe Lys								
	100			105			110	
Gln Glu Gly Phe Asp Cys Leu Glu Lys Gln Gly Leu Arg Arg Asn Gly								

115

120

125

Leu Ser Glu Arg Val Arg Trp
130 135

<210> 865
<211> 776
<212> DNA
<213> *Neisseria meningitidis*

<400> 865
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gccaaagaag cgggggtttga agtcagcggg tgcgacgcga agatgtatcc gccgatgagc 120
acccagctcg aagccttggg tatagacgtg tatgaaggct tcgatgccgc tcagttggac 180
gaatttaaag ccgacgttta cgttatcggc aatgtcgcca agcgcgggat ggatgtggtt 240
gaagcgattt tgaacctcgg cctgccttat atttccggcc cgcaatggct gtcggaaaac 300
gtgctgcacc atcattgggt actcgggtgtg gcggggacgc acggcaaaac gaccaccgcc 360
tccatgctcg catgggtcctt ggaatatgcc ggccctcgcg cgggcttcct tattggcggc 420
gtaccggaaa atttcggcgt ttccgcccgc ctgccgcaa cgccgcgcca agaccggaac 480
agccaatcgc cgtttttcgt catcgaagcc gacgaatacg acaccgcctt ttctgacaaa 540
cgtttctaaat tcgtgcatta ccgtccgcgt accgccgtgt tgaacaatct ggaattcgac 600
cacgccgaca tctttgccga cttggggcgcg atacagaccc agttccacta cctcgtgcgt 660
accgtgccgt ctgaaggctt aatcgtctgc aacggacggc agcaaagcct gcaagatact 720
ttggacaaaag gctgctggac gccggtggaa aaattcggca cggaacacgg ctggca 776

<210> 866
<211> 259
<212> PRT
<213> *Neisseria meningitidis*

<220>
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<222> (142)..(142)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (183)..(183)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (225)..(225)
<223> Xaa= any amino acid

<400> 866
Met Lys His Ile His Ile Ile Gly Ile Gly Gly Thr Phe Met Gly Gly
1 5 10 15
Leu Ala Ala Ile Ala Lys Glu Ala Gly Phe Glu Val Ser Gly Cys Asp
20 25 30
Ala Lys Met Tyr Pro Pro Met Ser Thr Gln Leu Glu Ala Leu Gly Ile
35 40 45
Asp Val Tyr Glu Gly Phe Asp Ala Ala Gln Leu Asp Glu Phe Lys Ala

50

55

60

Asp Val Tyr Val Ile Gly Asn Val Ala Lys Arg Gly Met Asp Val Val
65 70 75 80

Glu Ala Ile Leu Asn Leu Gly Leu Pro Tyr Ile Ser Gly Pro Gln Trp
85 90 95

Leu Ser Glu Asn Val Leu His His His Trp Val Leu Gly Val Ala Gly
100 105 110

Thr His Gly Lys Thr Thr Thr Ala Ser Met Leu Ala Trp Val Leu Glu
115 120 125

Tyr Ala Gly Leu Ala Pro Gly Phe Leu Ile Gly Gly Val Xaa Gly Lys
130 135 140

Phe Arg Arg Phe Arg Pro Pro Ala Ala Asn Ala Ala Pro Arg Pro Glu
145 150 155 160

Gln Pro Ile Ala Val Phe Arg His Arg Ser Arg Arg Ile Arg His Arg
165 170 175

Leu Phe Arg Gln Thr Phe Xaa Ile Arg Ala Leu Pro Ser Ala Tyr Arg
180 185 190

Arg Val Glu Gln Ser Gly Ile Arg Pro Arg Arg His Leu Cys Arg Leu
195 200 205

Gly Arg Asp Thr Asp Pro Val Pro Leu Pro Arg Ala Tyr Arg Ala Val
210 215 220

Xaa Arg Leu Asn Arg Leu Gln Arg Thr Ala Ala Lys Pro Ala Arg Tyr
225 230 235 240

Phe Gly Gln Arg Leu Leu Asp Ala Gly Gly Lys Ile Arg His Gly Thr
245 250 255

Arg Leu Ala

<210> 867

<211> 1377

<212> DNA

<213> Neisseria meningitidis

<400> 867

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gccaaagaag	cggggtttga	agtcagcggg	tgcgacgcga	agatgtatcc	gccgatgagc	120
accagctcg	aagccttggg	tatagacgtg	tatgaaggct	tcgatgccgc	tcagttggac	180
gaatttaaag	ccgacgttta	cgttatcggc	aatgtcgcca	agcgcgggat	ggatgtgggt	240
gaagcgattt	tgaacctcgg	cctgccttat	atttcgggcc	cgcaatggct	gtcggaaaac	300
gtgctgcacc	atcattgggt	actcgggtgtg	gcggggacgc	acggcaaaac	gaccaccgcc	360
tccatgctcg	catgggtcct	ggaatatgcc	ggcctcgcgc	cgggcttcc	tattggcggc	420
gtaccggaaa	atttcggcgt	ttccgcccgc	ctgccgcaaa	cgcgcgcgcca	agaccggaac	480
agccaatcgc	cgtttttcgt	catcgaagcc	gacgaatacg	acaccgcctt	tttcgacaaa	540

cgttctaaat	tcgtgcatta	ccgtccgcgt	accgccgtgt	tgaacaatct	ggaattcgac	600
cacgccgaca	tctttgccga	cttggggcgc	atacagaccc	agttccacta	cctcgtgcgt	660
accgtgccgt	ctgaaggctt	aatcgtctgc	aacggacggc	agcaaagcct	gcaagatact	720
ttggacaaag	gctgctggac	gccggtggaa	aaattcggca	cggaacacgg	ctggcaggcc	780
ggcgaagcca	atgccgacgg	ctcgttcgac	gtgttgctcg	acggcaaaac	cgccggacgc	840
gtcaaattggg	atttgatggg	caggcacaac	cgcatgaacg	cgctcgccgt	cattgccgcc	900
gcgcgtcatg	tcggtgtcga	tattcagacc	gcctgcgaag	ccttggggcg	gtttaaaaac	960
gtcaaacgcc	ggatggaaat	caaaggcacg	gcaaacggca	tcaccgttta	cgacgacttc	1020
gcccaccacc	cgaccgccat	cgaaccacag	attcaagggt	tgcgccaacg	cgtcggcggc	1080
gcgcgcatcc	tcgccgtcct	cgaaccgcgt	tccaacacga	tgaagctggg	cacgatgaag	1140
tccgccctgc	ctgtaagcct	caaagaagcc	gaccaagtgt	tctgctacgc	cggcggcggtg	1200
gactggggacg	tcgccgaagc	cctcgcgcct	ttgggcggca	ggctgaacgt	cggcaaagac	1260
ttcgatgcct	tcgttgccga	aatcgtgaaa	aacgccgaag	taggcgacca	tattttggtg	1320
atgagcaacg	gcggtttcgg	cggaatacac	ggaaagctgc	tggaagcttt	gagatag	1377

<210> 868

<211> 458

<212> PRT

<213> Neisseria meningitidis

<400> 868

Met	Lys	His	Ile	His	Ile	Ile	Gly	Ile	Gly	Gly	Thr	Phe	Met	Gly	Gly	1	5	10	15
Leu	Ala	Ala	Ile	Ala	Lys	Glu	Ala	Gly	Phe	Glu	Val	Ser	Gly	Cys	Asp	20	25	30	
Ala	Lys	Met	Tyr	Pro	Pro	Met	Ser	Thr	Gln	Leu	Glu	Ala	Leu	Gly	Ile	35	40	45	
Asp	Val	Tyr	Glu	Gly	Phe	Asp	Ala	Ala	Gln	Leu	Asp	Glu	Phe	Lys	Ala	50	55	60	
Asp	Val	Tyr	Val	Ile	Gly	Asn	Val	Ala	Lys	Arg	Gly	Met	Asp	Val	Val	65	70	75	80
Glu	Ala	Ile	Leu	Asn	Leu	Gly	Leu	Pro	Tyr	Ile	Ser	Gly	Pro	Gln	Trp	85	90	95	
Leu	Ser	Glu	Asn	Val	Leu	His	His	His	Trp	Val	Leu	Gly	Val	Ala	Gly	100	105	110	
Thr	His	Gly	Lys	Thr	Thr	Thr	Ala	Ser	Met	Leu	Ala	Trp	Val	Leu	Glu	115	120	125	
Tyr	Ala	Gly	Leu	Ala	Pro	Gly	Phe	Leu	Ile	Gly	Gly	Val	Pro	Glu	Asn	130	135	140	
Phe	Gly	Val	Ser	Ala	Arg	Leu	Pro	Gln	Thr	Pro	Arg	Gln	Asp	Pro	Asn	145	150	155	160
Ser	Gln	Ser	Pro	Phe	Phe	Val	Ile	Glu	Ala	Asp	Glu	Tyr	Asp	Thr	Ala	165	170	175	
Phe	Phe	Asp	Lys	Arg	Ser	Lys	Phe	Val	His	Tyr	Arg	Pro	Arg	Thr	Ala	180	185	190	

Val	Leu	Asn	Asn	Leu	Glu	Phe	Asp	His	Ala	Asp	Ile	Phe	Ala	Asp	Leu	195	200	205	
Gly	Ala	Ile	Gln	Thr	Gln	Phe	His	Tyr	Leu	Val	Arg	Thr	Val	Pro	Ser	210	215	220	
Glu	Gly	Leu	Ile	Val	Cys	Asn	Gly	Arg	Gln	Gln	Ser	Leu	Gln	Asp	Thr	225	230	235	240
Leu	Asp	Lys	Gly	Cys	Trp	Thr	Pro	Val	Glu	Lys	Phe	Gly	Thr	Glu	His	245	250	255	
Gly	Trp	Gln	Ala	Gly	Glu	Ala	Asn	Ala	Asp	Gly	Ser	Phe	Asp	Val	Leu	260	265	270	
Leu	Asp	Gly	Lys	Thr	Ala	Gly	Arg	Val	Lys	Trp	Asp	Leu	Met	Gly	Arg	275	280	285	
His	Asn	Arg	Met	Asn	Ala	Leu	Ala	Val	Ile	Ala	Ala	Ala	Arg	His	Val	290	295	300	
Gly	Val	Asp	Ile	Gln	Thr	Ala	Cys	Glu	Ala	Leu	Gly	Ala	Phe	Lys	Asn	305	310	315	320
Val	Lys	Arg	Arg	Met	Glu	Ile	Lys	Gly	Thr	Ala	Asn	Gly	Ile	Thr	Val	325	330	335	
Tyr	Asp	Asp	Phe	Ala	His	His	Pro	Thr	Ala	Ile	Glu	Thr	Thr	Ile	Gln	340	345	350	
Gly	Leu	Arg	Gln	Arg	Val	Gly	Gly	Ala	Arg	Ile	Leu	Ala	Val	Leu	Glu	355	360	365	
Pro	Arg	Ser	Asn	Thr	Met	Lys	Leu	Gly	Thr	Met	Lys	Ser	Ala	Leu	Pro	370	375	380	
Val	Ser	Leu	Lys	Glu	Ala	Asp	Gln	Val	Phe	Cys	Tyr	Ala	Gly	Gly	Val	385	390	395	400
Asp	Trp	Asp	Val	Ala	Glu	Ala	Leu	Ala	Pro	Leu	Gly	Gly	Arg	Leu	Asn	405	410	415	
Val	Gly	Lys	Asp	Phe	Asp	Ala	Phe	Val	Ala	Glu	Ile	Val	Lys	Asn	Ala	420	425	430	
Glu	Val	Gly	Asp	His	Ile	Leu	Val	Met	Ser	Asn	Gly	Gly	Phe	Gly	Gly	435	440	445	
Ile	His	Gly	Lys	Leu	Leu	Glu	Ala	Leu	Arg	450	455								

<210> 869
 <211> 1377
 <212> DNA
 <213> Neisseria meningitidis

<220>
 <221> misc_feature
 <222> (82)..(82)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (301)..(301)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (319)..(320)
 <223> N= Unknown

<220>
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 <222> (335)..(335)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (409)..(409)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (888)..(888)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (918)..(918)
 <223> N= Unknown

<220>
 <221> misc_feature
 <222> (1185)..(1185)
 <223> N= Unknown

<400> 869
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 acccagctcg aagccttggg cataggcgtg tatgaaggct tcgacaccgc gcagttggac 180
 gaatttaaag ccgacgttta cgttatcggc aatgtcgcca agcgcgggat ggatgtggtt 240
 gaagcgattt tgaaccgtgg gctgccttat atttccggcc cgcaatggct ggctgaaaac 300
 ntgctgcacc atcattggnn actcggcgtg gcgngacgc acggcaaaac gaccaccgcg 360
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 agccaatcgc cgtttttcgt cattgaagcc gacgaatacg acaccgcgtt ttctgacaaa 540
 cgctccaaat tcgtgcatta ccgtccgcgt accgcctgtg tgaacaatct ggaattcgac 600
 cacgccgaca tcttcgccga tttgggcgcg atacagaccc agttccacca cctcgtgcgt 660
 accgtgccgt ctgaaggcct catcgtctgc aacggacggc agcaaagcct gcaagacact 720
 ttggacaaag gctgctggac gccggtggaa aaattcggca cggaacacgg ctggcaggcc 780
 ggcgaagcca atgccgatgg ctcgttcgac gtggtgcttg acggcaaaaa agccggacac 840
 gtcgcttgga gtttgatggg cggacacaac cgcataaacg cgctcgcngt catcgccgcc 900

gcgcgatcatg	cgggagtnga	cattcagacg	gcctgcgaag	ccttgagcac	gtttaaaaaac	960
gtcaaacgcc	gcatggaaat	caaaggcacg	gcaaacggta	tcaccgttta	cgacgacttc	1020
gcccaccatc	cgaccgctat	cgaaaccacg	attcaagggt	tgccgagcg	cgtcggcgccg	1080
gcgcgcatcc	tcgccgctct	cgaaccgcgt	tccaatacga	tgaagctggg	tacgatgaaa	1140
gcccgcctgc	cgcgaagcct	caaagaagcc	gaccaagtgt	tctgntacgc	cggcggcgcg	1200
gactgggacg	ttgcgaagc	cctcgcgctt	ttgggcggca	ggctgcacgt	cggcaaagac	1260
ttcgatgcct	tcgttgccga	aatcgtgaaa	aacgccgaag	caggcgacca	tattttggtg	1320
atgagcaacg	gcgggtttcgg	cggaatacac	accaaactgc	tggacgcttt	gagatag	1377

<210> 870
 <211> 458
 <212> PRT
 <213> Neisseria meningitidis

<220>
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 <222> (28)..(28)
 <223> Xaa= any amino acid

<220>
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 <222> (101)..(101)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (107)..(107)
 <223> Xaa= any amino acid

<220>
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 <222> (112)..(112)
 <223> Xaa= any amino acid

<220>
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 <222> (137)..(137)
 <223> Xaa= any amino acid

<220>
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 <222> (395)..(395)
 <223> Xaa= any amino acid

<400> 870
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 1 5 10 15
 Ile Ala Ala Ile Ala Lys Glu Ala Gly Phe Glu Xaa Ser Gly Cys Asp
 20 25 30
 Ala Lys Met Tyr Pro Pro Met Ser Thr Gln Leu Glu Ala Leu Gly Ile
 35 40 45
 Gly Val Tyr Glu Gly Phe Asp Thr Ala Gln Leu Asp Glu Phe Lys Ala
 50 55 60

Asp	Val	Tyr	Val	Ile	Gly	Asn	Val	Ala	Lys	Arg	Gly	Met	Asp	Val	Val	65	70	75	80
Glu	Ala	Ile	Leu	Asn	Arg	Gly	Leu	Pro	Tyr	Ile	Ser	Gly	Pro	Gln	Trp	85	90	95	
Leu	Ala	Glu	Asn	Xaa	Leu	His	His	His	Trp	Xaa	Leu	Gly	Val	Ala	Xaa	100	105	110	
Thr	His	Gly	Lys	Thr	Thr	Thr	Ala	Ser	Met	Leu	Ala	Trp	Val	Leu	Glu	115	120	125	
Tyr	Ala	Gly	Leu	Ala	Pro	Gly	Phe	Xaa	Ile	Gly	Gly	Val	Pro	Glu	Asn	130	135	140	
Phe	Ser	Val	Ser	Ala	Arg	Leu	Pro	Gln	Thr	Pro	Arg	Gln	Asp	Pro	Asn	145	150	155	160
Ser	Gln	Ser	Pro	Phe	Phe	Val	Ile	Glu	Ala	Asp	Glu	Tyr	Asp	Thr	Ala	165	170		175
Phe	Phe	Asp	Lys	Arg	Ser	Lys	Phe	Val	His	Tyr	Arg	Pro	Arg	Thr	Ala	180	185		190
Val	Leu	Asn	Asn	Leu	Glu	Phe	Asp	His	Ala	Asp	Ile	Phe	Ala	Asp	Leu	195	200		205
Gly	Ala	Ile	Gln	Thr	Gln	Phe	His	His	Leu	Val	Arg	Thr	Val	Pro	Ser	210	215		220
Glu	Gly	Leu	Ile	Val	Cys	Asn	Gly	Arg	Gln	Gln	Ser	Leu	Gln	Asp	Thr	225	230	235	240
Leu	Asp	Lys	Gly	Cys	Trp	Thr	Pro	Val	Glu	Lys	Phe	Gly	Thr	Glu	His	245	250		255
Gly	Trp	Gln	Ala	Gly	Glu	Ala	Asn	Ala	Asp	Gly	Ser	Phe	Asp	Val	Leu	260	265		270
Leu	Asp	Gly	Lys	Lys	Ala	Gly	His	Val	Ala	Trp	Ser	Leu	Met	Gly	Gly	275	280		285
His	Asn	Arg	Met	Asn	Ala	Leu	Ala	Val	Ile	Ala	Ala	Ala	Arg	His	Ala	290	295		300
Gly	Val	Asp	Ile	Gln	Thr	Ala	Cys	Glu	Ala	Leu	Ser	Thr	Phe	Lys	Asn	305	310	315	320
Val	Lys	Arg	Arg	Met	Glu	Ile	Lys	Gly	Thr	Ala	Asn	Gly	Ile	Thr	Val	325	330		335
Tyr	Asp	Asp	Phe	Ala	His	His	Pro	Thr	Ala	Ile	Glu	Thr	Thr	Ile	Gln	340	345		350
Gly	Leu	Arg	Gln	Arg	Val	Gly	Gly	Ala	Arg	Ile	Leu	Ala	Val	Leu	Glu	355	360		365

Pro Arg Ser Asn Thr Met Lys Leu Gly Thr Met Lys Ala Ala Leu Pro
 370 375 380

Ala Ser Leu Lys Glu Ala Asp Gln Val Phe Xaa Tyr Ala Gly Gly Ala
 385 390 395 400

Asp Trp Asp Val Ala Glu Ala Leu Ala Pro Leu Gly Gly Arg Leu His
 405 410 415

Val Gly Lys Asp Phe Asp Ala Phe Val Ala Glu Ile Val Lys Asn Ala
 420 425 430

Glu Ala Gly Asp His Ile Leu Val Met Ser Asn Gly Gly Phe Gly Gly
 435 440 445

Ile His Thr Lys Leu Leu Asp Ala Leu Arg
 450 455

<210> 871
 <211> 8
 <212> DNA
 <213> Neisseria gonorrhoeae

<220>
 <221> misc_feature
 <222> (1)..(8)
 <223> N = Unknown

<400> 871
 nnnnnnnnn

8

<210> 872
 <211> 261
 <212> PRT
 <213> Neisseria gonorrhoeae

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Ile Ala Ala Ile Ala Lys Glu Ala Gly Phe Lys Val Ser Gly Cys Asp
 20 25 30

Ala Lys Met Tyr Pro Pro Met Ser Thr Gln Leu Glu Ala Leu Gly Ile
 35 40 45

Gly Val His Glu Gly Phe Asp Ala Ala Gln Leu Glu Glu Phe Gln Ala
 50 55 60

Asp Ile Tyr Val Ile Gly Asn Val Ala Arg Arg Gly Met Asp Val Val
 65 70 75 80

Glu Ala Ile Leu Asn Arg Gly Leu Pro Tyr Ile Ser Gly Pro Gln Trp
 85 90 95

Leu Ala Glu Asn Val Leu His His His Trp Val Leu Gly Val Ala Gly

100	105	110
Thr His Gly Lys Thr Thr Thr Ala Ser Met Leu Ala Trp Val Leu Glu 115 120 125		
Tyr Ala Gly Leu Ala Pro Gly Phe Leu Ile Gly Gly Val Pro Gly Lys 130 135 140		
Phe Arg Arg Phe Arg Pro Pro Thr Ala Asn Ala Ala Ser Arg Pro Glu 145 150 155 160		
Gln Gln Ile Ala Val Phe Arg His Arg Ser Arg Arg Ile Arg His Arg 165 170 175		
Leu Phe Arg Gln Thr Leu Gln Ile Arg Ala Leu Ser Pro Ala Tyr Arg 180 185 190		
Arg Val Glu Gln Ser Gly Ile Arg Pro Arg Arg His Leu Arg Arg Leu 195 200 205		
Gly Arg Asp Thr Asp Pro Val Pro Pro Pro Arg Ala His Arg Thr Ile 210 215 220		
Arg Arg Pro His Arg Leu Gln Arg Thr Ala Ala Lys Pro Ala Arg Tyr 225 230 235 240		
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Arg Leu Ala Asp Trp 260		

<210> 873
 <211> 1377
 <212> DNA
 <213> Neisseria gonorrhoeae

<400> 873

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acccagctcg	aagccttggg	cataggcgta	cacgaaggct	tcgatgccgc	gcagttggaa	180
gaatttcaag	ccgatattta	cgtcatcggc	aatgtcgcca	ggcgcgggat	ggatgtggtc	240
gaggcgattt	tgaaccgtgg	gctgccttat	atttcgggcc	cgcaatggct	ggctgaaaac	300
gtgctgcacc	atcattgggt	actcggcgtg	gcagggacgc	acggcaaaaac	gaccaccgcg	360
tccatgctcg	cctgggtcct	ggaatatgcc	ggactcgcgc	cgggcttcct	catcggcggt	420
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agcaaatcgc	cgtttttcgt	catcgaagcc	gacgaatacg	acaccgcctt	tttcgacaaa	540
cgctccaaat	tcgtgcatta	tcgcccgcgt	accgccgtgt	tgaacaatct	ggaattcgac	600
cacgccgaca	tcttcgccga	cttgggcgcg	atacagaccc	agttccacca	cctcgtgcgc	660
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gtcgcgatggg	atttgatggg	cggacacaac	cgcatgaacg	cgctcgccgt	catcgctgcc	900
gcacgccatg	ccggagtcca	tgttcagacg	gcctgcgaag	ccttgggtgc	gtttaaaaac	960
gtcaaacgcc	gcatggaaat	caaaggcacg	gcaaacggca	tcaccgttta	cgacgatttc	1020
gcccaccacc	cgaccgccat	cgaaaccacg	attcaaggtt	tgcgccaacg	tgtcggcggc	1080

gcgcgcacatcc	tcgccgtcct	cgagccgcgt	tccaacacca	tgaaactcgg	cacgatgaag	1140
tccgccctgc	ccgcaagcct	caaagaagcc	gaccaagtgt	tctgctacgc	cggcggcgcg	1200
gactgggacg	ttgccgaagc	cctcgcgccct	ttgggctgca	ggctgcgcgt	cggtaaagat	1260
ttcgatacct	tcgttgccga	aattgtgaaa	aacgcccga	ccggcgacca	tattttggtg	1320
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<210> 874

<211> 458

<212> PRT

<213> Neisseria gonorrhoeae

<400> 874

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Ala	Lys	Met	Tyr	Pro	Pro	Met	Ser	Thr	Gln	Leu	Glu	Ala	Leu	Gly	Ile	
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Glu	Ala	Ile	Leu	Asn	Arg	Gly	Leu	Pro	Tyr	Ile	Ser	Gly	Pro	Gln	Trp	
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Leu	Ala	Glu	Asn	Val	Leu	His	His	His	Trp	Val	Leu	Gly	Val	Ala	Gly	
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Thr	His	Gly	Lys	Thr	Thr	Thr	Ala	Ser	Met	Leu	Ala	Trp	Val	Leu	Glu	
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Tyr	Ala	Gly	Leu	Ala	Pro	Gly	Phe	Leu	Ile	Gly	Gly	Val	Pro	Glu	Asn	
	130					135					140					
Phe	Gly	Val	Ser	Ala	Arg	Leu	Pro	Gln	Thr	Pro	Arg	Gln	Asp	Pro	Asn	
145					150					155				160		
Ser	Lys	Ser	Pro	Phe	Phe	Val	Ile	Glu	Ala	Asp	Glu	Tyr	Asp	Thr	Ala	
				165					170					175		
Phe	Phe	Asp	Lys	Arg	Ser	Lys	Phe	Val	His	Tyr	Arg	Pro	Arg	Thr	Ala	
		180					185					190				
Val	Leu	Asn	Asn	Leu	Glu	Phe	Asp	His	Ala	Asp	Ile	Phe	Ala	Asp	Leu	
		195					200					205				
Gly	Ala	Ile	Gln	Thr	Gln	Phe	His	His	Leu	Val	Arg	Thr	Val	Pro	Ser	
	210					215					220					
Glu	Gly	Leu	Ile	Val	Cys	Asn	Gly	Gln	Gln	Gln	Ser	Leu	Gln	Asp	Thr	
225					230					235				240		

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tttggcttcr	atacctataa	aaaaggattg	ttaaaacaag	atgatacatt	aggattaaaa	360
ctggtcggct	accgcagccg	catcgacaac	tacatccaca	acgtttacgg	gaaatggtgg	420
gatttgaacg	gggatattcc	gagctgggtc	agcagcaccg	ggcttgccta	caccatccaa	480
catcgcratt	tcawagacaa	agtgcacaa	nnnnnnnnnn	nnnnnnnnnn	nnnntacgat	540
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cgctgggttg	gcaacaaact	gactttgggc	ggcgcgatgc	gctatttcgg	caagagcatc	780
cgcgcgacgg	ctgaagaacg	ctatatcgac	ggcaccaacg	ggggaaatac	cagcaatttc	840
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aatctgttcg	acagcggtta	tatcgatccg	ctcgatgcgg	gcaatgatgc	ggcaacgagc	1020
gttattacag	ctcgttcgac	ccgaaagaca	aggacrraga	cgtaacgtgt	aatgctgata	1080
aaacgttgtg	caacggcaaa	tacggcggca	caagcaaaag	cgtattgacc	aattttgcac	1140
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<210> 876
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 <212> PRT
 <213> *Neisseria meningitidis*

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<220>
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<223> Xaa= any amino acid

<400> 876

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Glu Pro Val Leu Lys Lys Tyr Gly Lys Lys Arg Ala Asn Asn His Ser
35 40 45

Val Ser Ile Ser Ala Asp Phe Gly Asp Tyr Phe Met Pro Phe Ala Ser
50 55 60

Tyr Ser Arg Thr His Arg Met Pro Asn Ile Gln Glu Met Tyr Phe Ser
65 70 75 80

Gln Ile Gly Asp Ser Gly Val His Thr Ala Leu Lys Pro Glu Arg Ala
85 90 95

Asn Thr Trp Gln Phe Gly Phe Xaa Thr Tyr Lys Lys Gly Leu Leu Lys
100 105 110

Gln Asp Asp Thr Leu Gly Leu Lys Leu Val Gly Tyr Arg Ser Arg Ile
115 120 125

Asp Asn Tyr Ile His Asn Val Tyr Gly Lys Trp Trp Asp Leu Asn Gly
130 135 140

Asp Ile Pro Ser Trp Val Ser Ser Thr Gly Leu Ala Tyr Thr Ile Gln
145 150 155 160

His Arg Xaa Phe Xaa Asp Lys Val His Gln Xaa Xaa Xaa Xaa Xaa Xaa
165 170 175

Xaa Xaa Tyr Asp Tyr Gly Arg Phe Phe Thr Asn Leu Ser Tyr Ala Tyr
180 185 190

Gln Lys Ser Thr Gln Pro Thr Asn Phe Ser Asp Ala Ser Glu Ser Pro
195 200 205

Asn Asn Ala Ser Lys Glu Asp Gln Leu Lys Gln Gly Tyr Gly Leu Ser
210 215 220

Arg Val Ser Ala Leu Pro Arg Asp Tyr Gly Arg Leu Glu Val Gly Thr
225 230 235 240

Arg Trp Leu Gly Asn Lys Leu Thr Leu Gly Gly Ala Met Arg Tyr Phe
245 250 255

Gly Lys Ser Ile Arg Ala Thr Ala Glu Glu Arg Tyr Ile Asp Gly Thr
 260 265 270
 Asn Gly Gly Asn Thr Ser Asn Phe Arg Gln Leu Gly Lys Arg Ser Ile
 275 280 285
 Lys Gln Thr Glu Thr Leu Ala Arg Gln Pro Leu Ile Xaa Asp Phe Asn
 290 295 300
 Ala Ala Tyr Glu Pro Lys Lys Asn Leu Ile Phe Arg Ala Glu Val Lys
 305 310 315 320
 Asn Leu Phe Asp Arg Arg Tyr Ile Asp Pro Leu Asp Ala Gly Asn Asp
 325 330 335
 Ala Ala Xaa Glu Arg Tyr Tyr Ser Ser Phe Asp Pro Lys Asp Lys Asp
 340 345 350
 Xaa Asp Val Thr Cys Asn Ala Asp Lys Thr Leu Cys Asn Gly Lys Tyr
 355 360 365
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 385 390

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 <213> *Neisseria meningitidis*

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 accggcacca attcaaccaa aggtaatgcg atggcggcga taggtgcgcg caaatggctg 540
 gaaagcggag catctgtcgg tgtgctttac gggcacagca ggcgcagcgt ggcgcaaaat 600
 taccgcgtgg gcggcggcgg gcagcacatc ggaaattttg gcgcggaata tttggaacgg 660
 cgcaagcagc gatattttgt acaagagggt gctttgaaat tcaattccga cagcggaaaa 720
 tgggagcggg atttacaag gcaacagtgg aaatacaagc cgtataaaaa ttacaacaac 780
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 caatacgaca ttaccccat cgatccgtcc agcctgaagc agcagtcggc aggcaatctg 900
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gacaaagtgc	acaaacacgg	ttttgagttg	gagctgaatt	acgattatgg	gcgttttttc	2040
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ggcaaatacg	gcggcacaa	caaaagcgta	ttgaccaatt	ttgcacgcgg	acgcaccttt	2640
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 <213> Neisseria meningitidis

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 <223> Xaa= any amino acid

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 35 40 45
 Ser Ile Pro Gly Ala Phe Thr Gln Gln Asp Lys Ser Ser Gly Ile Val
 50 55 60
 Ser Leu Asn Ile Arg Gly Asp Ser Gly Phe Gly Arg Val Asn Thr Met
 65 70 75 80
 Val Asp Gly Ile Thr Gln Thr Phe Tyr Ser Thr Ser Thr Asp Ala Gly
 85 90 95

Arg	Ala	Gly	Gly	Ser	Ser	Gln	Phe	Gly	Ala	Ser	Val	Asp	Ser	Asn	Phe	
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Ile	Ala	Gly	Leu	Asp	Val	Val	Lys	Gly	Ser	Phe	Ser	Gly	Ser	Ala	Gly	
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	130					135					140					
Asp	Val	Val	Gln	Gly	Asn	Asn	Thr	Tyr	Gly	Leu	Leu	Leu	Lys	Gly	Leu	
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Thr	Gly	Thr	Asn	Ser	Thr	Lys	Gly	Asn	Ala	Met	Ala	Ala	Ile	Gly	Ala	
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Arg	Lys	Trp	Leu	Glu	Ser	Gly	Ala	Ser	Val	Gly	Val	Leu	Tyr	Gly	His	
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Tyr	Phe	Val	Gln	Glu	Gly	Ala	Leu	Lys	Phe	Asn	Ser	Asp	Ser	Gly	Lys	
225					230					235					240	
Trp	Glu	Arg	Asp	Leu	Gln	Arg	Gln	Gln	Trp	Lys	Tyr	Lys	Pro	Tyr	Lys	
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Asn	Tyr	Asn	Asn	Gln	Glu	Leu	Gln	Lys	Tyr	Ile	Glu	Glu	His	Asp	Lys	
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Ser	Trp	Arg	Glu	Asn	Leu	Xaa	Pro	Gln	Tyr	Asp	Ile	Thr	Pro	Ile	Asp	
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Tyr	Asp	Gly	Val	Phe	Asn	Lys	Tyr	Thr	Ala	Gln	Phe	Arg	Asp	Leu	Asn	
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Thr	Lys	Ile	Gly	Ser	Arg	Lys	Ile	Ile	Asn	Arg	Asn	Tyr	Gln	Phe	Asn	
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		340						345					350			
Tyr	Asn	Ser	Gly	Arg	Gln	Lys	Tyr	Pro	Lys	Gly	Ser	Lys	Phe	Thr	Gly	
	355						360					365				
Trp	Gly	Leu	Leu	Lys	Asp	Phe	Glu	Thr	Tyr	Asn	Asn	Ala	Lys	Ile	Leu	
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Asp	Leu	Asn	Asn	Thr	Ala	Thr	Phe	Arg	Leu	Pro	Arg	Glu	Thr	Glu	Leu	
385					390					395					400	

Gln	Thr	Thr	Leu	Gly	Phe	Asn	Tyr	Phe	His	Asn	Glu	Tyr	Gly	Lys	Asn	
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Arg	Phe	Pro	Glu	Glu	Leu	Gly	Leu	Phe	Phe	Asp	Gly	Pro	Asp	Gln	Asp	
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Asn	Gly	Leu	Tyr	Ser	Tyr	Leu	Gly	Arg	Phe	Lys	Gly	Asp	Lys	Gly	Leu	
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Leu	Pro	Gln	Lys	Ser	Thr	Ile	Val	Gln	Pro	Ala	Gly	Ser	Gln	Tyr	Phe	
	450					455					460					
Asn	Thr	Phe	Tyr	Phe	Asp	Ala	Ala	Leu	Lys	Lys	Asp	Ile	Tyr	Arg	Leu	
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Gly	Tyr	Tyr	Gly	Ser	Asp	Asp	Glu	Phe	Lys	Arg	Ala	Phe	Gly	Glu	Asn	
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Ser	Pro	Thr	Tyr	Lys	Lys	His	Cys	Asn	Arg	Ser	Cys	Gly	Ile	Tyr	Glu	
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Pro	Val	Leu	Lys	Lys	Tyr	Gly	Lys	Lys	Arg	Ala	Asn	Asn	His	Ser	Val	
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Ser	Ile	Ser	Ala	Asp	Phe	Gly	Asp	Tyr	Phe	Met	Pro	Phe	Ala	Ser	Tyr	
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Ser	Arg	Thr	His	Arg	Met	Pro	Asn	Ile	Gln	Glu	Met	Tyr	Phe	Ser	Gln	
				565					570					575		
Ile	Gly	Asp	Ser	Gly	Val	His	Thr	Ala	Leu	Lys	Pro	Glu	Arg	Ala	Asn	
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Thr	Trp	Gln	Phe	Gly	Phe	Asn	Thr	Tyr	Lys	Lys	Gly	Leu	Leu	Lys	Gln	
		595					600					605				
Asp	Asp	Thr	Leu	Gly	Leu	Lys	Leu	Val	Gly	Tyr	Arg	Ser	Arg	Ile	Asp	
	610					615					620					
Asn	Tyr	Ile	His	Asn	Val	Tyr	Gly	Lys	Trp	Trp	Asp	Leu	Asn	Gly	Asp	
625					630					635					640	
Ile	Pro	Ser	Trp	Val	Ser	Ser	Thr	Gly	Leu	Ala	Tyr	Thr	Ile	Gln	His	
				645					650					655		
Arg	Asn	Phe	Lys	Asp	Lys	Val	His	Lys	His	Gly	Phe	Glu	Leu	Glu	Leu	
			660					665					670			
Asn	Tyr	Asp	Tyr	Gly	Arg	Phe	Phe	Thr	Asn	Leu	Ser	Tyr	Ala	Tyr	Gln	
		675					680					685				
Lys	Ser	Thr	Gln	Pro	Thr	Asn	Phe	Ser	Asp	Ala	Ser	Glu	Ser	Pro	Asn	
	690					695					700					

Asn Ala Ser Lys Glu Asp Gln Leu Lys Gln Gly Tyr Gly Leu Ser Arg
 705 710 715 720
 Val Ser Ala Leu Pro Arg Asp Tyr Gly Arg Leu Glu Val Gly Thr Arg
 725 730 735
 Trp Leu Gly Asn Lys Leu Thr Leu Gly Gly Ala Met Arg Tyr Phe Gly
 740 745 750
 Lys Ser Ile Arg Ala Thr Ala Glu Glu Arg Tyr Ile Asp Gly Thr Asn
 755 760 765
 Gly Gly Asn Thr Ser Asn Phe Arg Gln Leu Gly Lys Arg Ser Ile Lys
 770 775 780
 Gln Thr Glu Thr Leu Ala Arg Gln Pro Leu Ile Phe Asp Phe Tyr Ala
 785 790 795 800
 Ala Tyr Glu Pro Lys Lys Asn Leu Ile Phe Arg Ala Glu Val Lys Asn
 805 810 815
 Leu Phe Asp Arg Arg Tyr Ile Asp Pro Leu Asp Ala Gly Asn Asp Ala
 820 825 830
 Ala Thr Gln Arg Tyr Tyr Ser Ser Phe Asp Pro Lys Asp Lys Asp Glu
 835 840 845
 Asp Val Thr Cys Asn Ala Asp Lys Thr Leu Cys Asn Gly Lys Tyr Gly
 850 855 860
 Gly Thr Ser Lys Ser Val Leu Thr Asn Phe Ala Arg Gly Arg Thr Phe
 865 870 875 880
 Leu Met Thr Met Ser Tyr Lys Phe
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<210> 879
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 Gly Ala Thr Ala Thr Ala Thr Thr Cys Ala Ala Ala Thr Cys Cys Ala
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 Asn Cys Gly Ala Ala Ala Ala Cys Cys Thr Cys Gly Ala Cys Ala Ala
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Cys	Ala	Thr	Cys	Gly	Thr	Ala	Cys	Gly	Cys	Ala	Asn	Cys	Ala	Thr	Cys		85	90	95
Cys	Cys	Cys	Gly	Gly	Thr	Gly	Cys	Gly	Thr	Thr	Thr	Ala	Cys	Ala	Cys		100	105	110
Ala	Asn	Cys	Ala	Ala	Asn	Ala	Thr	Ala	Ala	Ala	Ala	Gly	Cys	Thr	Cys		115	120	125
Gly	Gly	Gly	Cys	Asn	Thr	Thr	Gly	Thr	Gly	Thr	Cys	Thr	Thr	Thr	Gly		130	135	140
Ala	Ala	Thr	Ala	Thr	Thr	Cys	Gly	Cys	Asn	Gly	Cys	Gly	Ala	Cys	Ala		145	150	155
Gly	Cys	Gly	Gly	Gly	Thr	Thr	Cys	Gly	Gly	Gly	Cys	Gly	Gly	Gly	Thr		165	170	175
Cys	Ala	Ala	Thr	Ala	Cys	Asn	Ala	Thr	Gly	Gly	Thr	Asn	Gly	Ala	Cys		180	185	190
Gly	Gly	Cys	Ala	Thr	Cys	Ala	Cys	Asn	Cys	Ala	Asn	Ala	Cys	Cys	Thr		195	200	205
Thr	Thr	Thr	Ala	Thr	Thr	Cys	Gly	Ala	Cys	Thr	Thr	Cys	Thr	Ala	Cys		210	215	220
Cys	Gly	Ala	Thr	Gly	Cys	Gly	Gly	Gly	Cys	Ala	Gly	Gly	Gly	Cys	Ala		225	230	235
Gly	Gly	Cys	Gly	Gly	Thr	Thr	Cys	Ala	Thr	Cys	Thr	Cys	Ala	Ala	Thr		245	250	255
Thr	Cys	Gly	Gly	Thr	Gly	Cys	Ala	Thr	Cys	Thr	Gly	Thr	Cys	Gly	Ala		260	265	270
Cys	Ala	Gly	Cys	Ala	Ala	Thr	Thr	Thr	Thr	Ala	Thr	Asn	Gly	Cys	Cys		275	280	285
Gly	Gly	Ala	Cys	Thr	Gly	Gly	Ala	Thr	Gly	Thr	Cys	Gly	Thr	Cys	Ala		290	295	300
Ala	Ala	Gly	Gly	Cys	Ala	Gly	Cys	Thr	Thr	Cys	Ala	Gly	Cys	Gly	Gly		305	310	315
Cys	Thr	Cys	Gly	Gly	Cys	Ala	Gly	Gly	Cys	Ala	Thr	Cys	Ala	Ala	Cys		325	330	335
Ala	Gly	Cys	Cys	Thr	Thr	Gly	Cys	Cys	Gly	Gly	Thr	Thr	Cys	Gly	Gly		340	345	350
Cys	Gly	Ala	Ala	Thr	Cys	Thr	Gly	Cys	Gly	Gly	Ala	Cys	Thr	Thr	Thr		355	360	365
Ala	Asn	Gly	Cys	Gly	Thr	Gly	Gly	Ala	Thr	Gly	Ala	Thr	Gly	Thr	Cys		370	375	380

Gly	Thr	Thr	Cys	Ala	Gly	Gly	Gly	Cys	Ala	Ala	Thr	Ala	Asn	Thr	Ala	385	390	395	400
Cys	Asn	Thr	Ala	Cys	Gly	Gly	Cys	Cys	Thr	Gly	Cys	Thr	Gly	Cys	Thr	405	410		415
Ala	Ala	Ala	Ala	Gly	Gly	Thr	Cys	Thr	Gly	Ala	Cys	Cys	Gly	Gly	Cys	420	425		430
Ala	Cys	Cys	Ala	Ala	Thr	Thr	Cys	Ala	Ala	Cys	Cys	Ala	Ala	Ala	Gly	435	440		445
Gly	Thr	Ala	Ala	Thr	Gly	Cys	Gly	Ala	Thr	Gly	Gly	Cys	Gly	Gly	Cys	450	455		460
Gly	Ala	Thr	Ala	Gly	Gly	Thr	Gly	Cys	Gly	Cys	Gly	Cys	Ala	Ala	Ala	465	470	475	480
Thr	Gly	Gly	Cys	Thr	Gly	Gly	Ala	Ala	Ala	Gly	Cys	Gly	Gly	Ala	Gly	485	490		495
Cys	Ala	Thr	Cys	Thr	Gly	Thr	Cys	Gly	Gly	Thr	Gly	Thr	Gly	Cys	Thr	500	505		510
Thr	Thr	Ala	Cys	Gly	Gly	Gly	Cys	Ala	Cys	Ala	Gly	Cys	Ala	Gly	Gly	515	520	525	
Cys	Gly	Cys	Ala	Gly	Cys	Gly	Thr	Gly	Gly	Cys	Gly	Cys	Ala	Ala	Ala	530	535	540	
Ala	Thr	Thr	Ala	Cys	Cys	Gly	Cys	Gly	Thr	Gly	Gly	Gly	Cys	Gly	Gly	545	550	555	560
Cys	Gly	Gly	Cys	Gly	Gly	Gly	Cys	Ala	Gly	Cys	Ala	Cys	Ala	Thr	Cys	565	570		575
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Thr	Gly	Ala	Ala	Ala	Thr	Thr	Cys	Ala	Ala	Thr	Thr	Cys	Cys	Ala	Ala	645	650		655
Cys	Ala	Gly	Cys	Gly	Gly	Ala	Ala	Ala	Ala	Thr	Gly	Gly	Gly	Ala	Gly	660	665	670	
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Cys	Ala	Cys	Cys	Cys	Cys	Cys	Ala	Thr	Cys	Gly	Ala	Thr	Cys	Cys	Gly		805	810	815
Thr	Cys	Cys	Ala	Gly	Cys	Cys	Thr	Gly	Ala	Ala	Gly	Cys	Asn	Gly	Cys		820	825	830
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Thr	Thr	Ala	Thr	Cys	Ala	Ala	Thr	Thr	Cys	Ala	Ala	Thr	Thr	Ala	Cys		945	950	955
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1055	1060	1065	
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Gly Ala	Gly Thr Thr Gly Cys	Ala Ala Ala Cys Cys	Ala Cys Thr
1145	1150	1155	
Thr Thr	Gly Gly Gly Cys Thr	Thr Cys Ala Ala Thr	Thr Ala Thr
1160	1165	1170	
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1175	1180	1185	
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Ala	Cys	Cys	Ala	Thr	Thr	Gly	Thr	Cys	Cys	Ala	Ala	Cys	Cys	Gly
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Gly	Cys	Cys	Gly	Gly	Cys	Ala	Gly	Cys	Cys	Ala	Ala	Thr	Ala	Thr
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Thr	Ala	Cys	Asn	Gly	Cys	Thr	Cys	Gly	Gly	Ala	Thr	Gly	Ala	Cys
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1490						1495						1500		
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Ala	Ala	Thr	Ala	Cys	Cys	Thr	Ala	Thr	Ala	Ala	Ala	Ala	Ala	Ala
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1760						1765					1770			
Gly	Ala	Thr	Gly	Ala	Thr	Ala	Thr	Ala	Thr	Thr	Ala	Gly	Gly	Ala
1775						1780					1785			
Thr	Thr	Ala	Ala	Ala	Ala	Cys	Thr	Gly	Gly	Thr	Cys	Gly	Gly	Cys
1790						1795					1800			
Thr	Ala	Cys	Cys	Gly	Cys	Ala	Gly	Cys	Cys	Gly	Cys	Ala	Thr	Cys
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Gly Gly 1865	Gly Ala Ala Thr Ala 1870	Thr Thr Cys Cys Gly 1875	Ala Gly Cys
Thr Gly 1880	Gly Gly Thr Cys Ala 1885	Gly Cys Ala Gly Cys 1890	Ala Cys Cys
Gly Gly 1895	Gly Cys Thr Thr Gly 1900	Cys Cys Thr Ala Cys 1905	Ala Cys Cys
Ala Thr 1910	Cys Cys Ala Ala Cys 1915	Ala Cys Cys Gly Cys 1920	Ala Ala Thr
Thr Thr 1925	Cys Ala Ala Ala Gly 1930	Ala Cys Ala Ala Ala 1935	Gly Thr Gly
Cys Ala 1940	Cys Ala Ala Ala Cys 1945	Ala Cys Gly Gly Thr 1950	Thr Thr Thr
Gly Ala 1955	Gly Thr Thr Gly Gly 1960	Ala Gly Cys Thr Gly 1965	Ala Ala Thr
Thr Ala 1970	Cys Gly Ala Thr Thr 1975	Ala Thr Asn Gly Gly 1980	Cys Gly Thr
Thr Thr 1985	Thr Thr Thr Cys Ala 1990	Cys Cys Ala Ala Cys 1995	Cys Thr Thr
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Ala Ala 2015	Ala Ala Gly Cys Ala 2020	Cys Gly Cys Ala Ala 2025	Cys Cys Gly
Ala Cys 2030	Cys Ala Ala Cys Thr 2035	Thr Cys Ala Gly Cys 2040	Gly Ala Thr
Gly Cys 2045	Gly Ala Gly Cys Gly 2050	Ala Ala Thr Cys Gly 2055	Cys Cys Cys
Ala Ala 2060	Cys Ala Ala Thr Gly 2065	Cys Gly Thr Cys Cys 2070	Ala Ala Ala
Gly Ala 2075	Ala Gly Ala Cys Cys 2080	Ala Ala Cys Thr Cys 2085	Ala Ala Ala
Cys Ala 2090	Ala Gly Gly Thr Thr 2095	Ala Thr Gly Gly Gly 2100	Thr Thr Gly
Ala Gly 2105	Cys Ala Gly Gly Gly 2110	Thr Thr Thr Cys Cys 2115	Gly Cys Cys
Cys Thr 2120	Gly Cys Cys Gly Cys 2125	Gly Ala Gly Ala Thr 2130	Thr Ala Cys

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Thr Thr	Gly Gly Gly Cys	Gly	Gly Cys Gly Cys	Gly	Ala Thr Gly
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Cys Gly	Cys Thr Ala Thr	Thr	Thr Cys Gly Gly	Cys	Ala Ala Gly
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Gly Gly	Cys Ala Ala Gly	Cys	Gly Thr Thr Cys	Cys	Ala Thr Cys
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Gly Ala	Cys Ala Gly Gly	Cys	Gly Thr Thr Ala	Thr	Ala Thr Cys
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Gly Gly Cys Ala Ala Thr Gly Ala Thr Gly Cys Gly Gly Cys Ala	2435	2440	2445
Ala Cys Gly Cys Ala Gly Cys Gly Thr Thr Ala Thr Thr Ala Cys	2450	2455	2460
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Gly Ala Ala Gly Thr Ala Ala Cys Gly Thr Gly Thr Ala Ala Thr	2495	2500	2505
Gly Ala Thr Gly Ala Thr Ala Ala Cys Ala Cys Gly Thr Thr Ala	2510	2515	2520
Thr Gly Cys Ala Ala Cys Gly Gly Cys Ala Ala Ala Thr Ala Cys	2525	2530	2535
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Pro Gly Ala Phe Thr Xaa Gln Xaa Lys Ser Ser Gly Xaa Val Ser Leu
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Asn Ile Arg Xaa Asp Ser Gly Phe Gly Arg Val Asn Thr Met Val Asp
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Gly Ile Thr Xaa Thr Phe Tyr Ser Thr Ser Thr Asp Ala Gly Arg Ala
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Gly Gly Ser Ser Gln Phe Gly Ala Ser Val Asp Ser Asn Phe Xaa Ala
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Gly Leu Asp Val Val Lys Gly Ser Phe Ser Gly Ser Ala Gly Ile Asn
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Ser Leu Ala Gly Ser Ala Asn Leu Arg Thr Leu Xaa Val Asp Asp Val
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Val Gln Gly Asn Xaa Thr Tyr Gly Leu Leu Leu Lys Gly Leu Thr Gly
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Thr Asn Ser Thr Lys Gly Asn Ala Met Ala Ala Ile Gly Ala Arg Lys
145 150 155 160

Trp Leu Glu Ser Gly Ala Ser Val Gly Val Leu Tyr Gly His Ser Arg
165 170 175

Arg Ser Val Ala Gln Asn Tyr Arg Val Gly Gly Gly Gly Gln His Ile
180 185 190

Gly Asn Phe Gly Ala Glu Tyr Leu Glu Arg Arg Lys Gln Arg Tyr Phe
195 200 205

Glu Gln Glu Gly Gly Leu Lys Phe Asn Ser Asn Ser Gly Lys Trp Glu
210 215 220

Arg Asp Phe Gln Lys Ser Tyr Trp Lys Thr Lys Trp Tyr Gln Lys Tyr
225 230 235 240

Asp Ala Pro Gln Glu Leu Gln Lys Tyr Ile Glu Gly His Asp Lys Ser
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Trp Arg Glu Asn Leu Ala Pro Gln Tyr Asp Ile Thr Pro Ile Asp Pro
260 265 270

Ser Ser Leu Lys Xaa Gln Ser Ala Gly Asn Leu Phe Lys Leu Glu Tyr

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Gly	Leu	Ser	Leu	Asn	Pro	Tyr	Thr	Asn	Leu	Asn	Leu	Thr	Ala	Ala	Tyr
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Phe	Pro	Glu	Glu	Leu	Gly	Leu	Phe	Phe	Asp	Gly	Pro	Asp	Xaa	Asp	Asn
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Tyr	Tyr	Xaa	Ser	Asp	Asp	Glu	Phe	Lys	Arg	Ala	Phe	Gly	Glu	Asn	Ser
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Pro	Thr	Tyr	Xaa	Lys	His	Cys	Asn	Gln	Ser	Cys	Gly	Ile	Tyr	Glu	Pro
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Ile	Ser	Ala	Asp	Phe	Gly	Asp	Tyr	Phe	Met	Pro	Phe	Ala	Ser	Tyr	Ser
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Trp	Gln	Phe	Gly	Phe	Asn	Thr	Tyr	Lys	Lys	Gly	Leu	Leu	Lys	Gln	Asp	580	585	590	
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Tyr	Ile	His	Asn	Val	Tyr	Gly	Lys	Trp	Trp	Asp	Leu	Asn	Gly	Asn	Ile	610	615	620	
Pro	Ser	Trp	Val	Ser	Ser	Thr	Gly	Leu	Ala	Tyr	Thr	Ile	Gln	His	Arg	625	630	635	640
Asn	Phe	Lys	Asp	Lys	Val	His	Lys	His	Gly	Phe	Glu	Leu	Glu	Leu	Asn	645	650	655	
Tyr	Asp	Tyr	Xaa	Arg	Phe	Phe	Thr	Asn	Leu	Ser	Tyr	Ala	Tyr	Gln	Lys	660	665	670	
Ser	Thr	Gln	Pro	Thr	Asn	Phe	Ser	Asp	Ala	Ser	Glu	Ser	Pro	Asn	Asn	675	680	685	
Ala	Ser	Lys	Glu	Asp	Gln	Leu	Lys	Gln	Gly	Tyr	Gly	Leu	Ser	Arg	Val	690	695	700	
Ser	Ala	Leu	Pro	Arg	Asp	Tyr	Gly	Arg	Leu	Glu	Val	Gly	Thr	Arg	Trp	705	710	715	720
Leu	Gly	Asn	Lys	Leu	Thr	Leu	Gly	Gly	Ala	Met	Arg	Tyr	Phe	Gly	Lys	725	730	735	
Ser	Ile	Arg	Ala	Thr	Ala	Glu	Glu	Arg	Tyr	Ile	Asp	Xaa	Thr	Asn	Gly	740	745	750	
Xaa	Xaa	Thr	Ser	Asn	Phe	Arg	Gln	Leu	Gly	Lys	Arg	Ser	Ile	Xaa	Gln	755	760	765	
Thr	Glu	Thr	Leu	Ala	Arg	Gln	Pro	Leu	Ile	Phe	Asp	Xaa	Tyr	Ala	Ala	770	775	780	
Tyr	Glu	Pro	Lys	Lys	Xaa	Leu	Ile	Phe	Arg	Ala	Glu	Val	Lys	Asn	Leu	785	790	795	800
Phe	Asp	Arg	Arg	Tyr	Ile	Asp	Pro	Leu	Asp	Ala	Gly	Asn	Asp	Ala	Ala	805	810	815	
Thr	Gln	Arg	Tyr	Tyr	Ser	Ser	Phe	Asp	Pro	Lys	Asp	Lys	Asp	Glu	Glu	820	825	830	
Val	Thr	Cys	Asn	Asp	Asp	Asn	Thr	Leu	Cys	Asn	Gly	Lys	Tyr	Gly	Gly	835	840	845	
Thr	Ser	Lys	Ser	Val	Leu	Thr	Asn	Phe	Ala	Arg	Gly	Xaa	Thr	Phe	Leu	850	855	860	
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 Thr Arg Gln Asp Val Phe Lys Ser Gly Glu Asn Leu Asp Asn Ile Val
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 Arg Ser Ile Pro Gly Ala Phe Thr Gln Gln Asp Lys Ser Ser Gly Ile
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 Val Ser Leu Asn Ile Arg Gly Asp Ser Gly Phe Gly Arg Val Asn Thr
 100 105 110
 Met Val Asp Gly Ile Thr Gln Thr Phe Tyr Ser Thr Ser Thr Asp Ala
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 Gly Arg Ala Gly Gly Ser Ser Gln Phe Gly Ala Ser Val Asp Ser Asn
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 Phe Ile Ala Gly Leu Asp Val Val Lys Gly Ser Phe Ser Gly Ser Ala
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 Asp Asp Val Val Gln Gly Asn Asn Thr Tyr Gly Leu Leu Leu Lys Gly
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 Leu Thr Gly Thr Asn Ser Thr Lys Gly Asn Ala Met Ala Ala Ile Gly

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225					230					235					240
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Gln	Tyr	Phe	Val	Gln	Glu	Gly	Gly	Leu	Lys	Phe	Asn	Ala	Gly	Ser	Gly
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Lys	Trp	Glu	Arg	Asp	Leu	Gln	Arg	Gln	Tyr	Trp	Lys	Thr	Lys	Trp	Tyr
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Asp	Lys	Ser	Trp	Arg	Glu	Asn	Leu	Ala	Pro	Gln	Tyr	Asp	Ile	Thr	Pro
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Ile	Asp	Pro	Ser	Gly	Leu	Lys	Gln	Gln	Ser	Ala	Gly	Asn	Leu	Leu	Asn
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Leu	Glu	Tyr	Asp	Gly	Val	Phe	Asn	Lys	Tyr	Thr	Ala	Gln	Phe	Arg	Asp
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Leu	Asn	Thr	Arg	Ile	Gly	Ser	Arg	Lys	Ile	Ile	Asn	Arg	Asn	Tyr	Gln
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Phe	Asn	Tyr	Gly	Leu	Ser	Leu	Asn	Pro	Tyr	Thr	Asn	Leu	Asn	Leu	Thr
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Thr	Gly	Trp	Gly	Leu	Leu	Lys	Asp	Phe	Glu	Thr	Tyr	Asn	Asn	Ala	Lys
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Glu	Leu	Gln	Thr	Thr	Leu	Gly	Phe	Asn	Tyr	Phe	His	Asn	Glu	Tyr	Gly
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Lys	Asn	Arg	Phe	Pro	Glu	Glu	Leu	Gly	Leu	Phe	Phe	Asp	Gly	Pro	Asp
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Gln	Asp	Asn	Gly	Leu	Tyr	Ser	Tyr	Leu	Gly	Arg	Phe	Lys	Gly	Asp	Lys
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Gly	Leu	Leu	Pro	Gln	Lys	Ser	Thr	Ile	Val	Gln	Pro	Ala	Gly	Ser	Gln
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Tyr	Phe	Asn	Thr	Phe	Tyr	Phe	Asp	Ala	Ala	Leu	Lys	Lys	Asp	Ile	Tyr		
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Tyr	Glu	Pro	Val	Leu	Lys	Lys	Tyr	Gly	Lys	Lys	Arg	Ala	Asn	Asn	His		
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Ser	Val	Ser	Ile	Ser	Ala	Asp	Phe	Gly	Asp	Tyr	Phe	Met	Pro	Phe	Ala		
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Lys	Gln	Asp	Asp	Ile	Leu	Gly	Leu	Lys	Leu	Val	Gly	Tyr	Arg	Ser	Arg		
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			660					665						670			
Gly	Asp	Ile	Pro	Ser	Trp	Val	Gly	Ser	Thr	Gly	Leu	Ala	Tyr	Thr	Ile		
		675					680					685					
Arg	His	Arg	Asn	Phe	Lys	Asp	Lys	Val	His	Lys	His	Gly	Phe	Glu	Leu		
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Glu	Leu	Asn	Tyr	Asp	Tyr	Gly	Arg	Phe	Phe	Thr	Asn	Leu	Ser	Tyr	Ala		
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Tyr	Gln	Lys	Ser	Thr	Gln	Pro	Thr	Asn	Phe	Ser	Asp	Ala	Ser	Glu	Ser		
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Pro	Asn	Asn	Ala	Ser	Lys	Glu	Asp	Gln	Leu	Lys	Gln	Gly	Tyr	Gly	Leu		
			740					745					750				
Ser	Arg	Val	Ser	Ala	Leu	Pro	Arg	Asp	Tyr	Gly	Arg	Leu	Glu	Val	Gly		
		755					760					765					
Thr	Arg	Trp	Leu	Gly	Asn	Lys	Leu	Thr	Leu	Gly	Gly	Ala	Met	Arg	Tyr		
	770					775					780						
Phe	Gly	Lys	Ser	Ile	Arg	Ala	Thr	Ala	Glu	Glu	Arg	Tyr	Ile	Asp	Gly		
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Thr Asn Gly Gly Asn Thr Ser Asn Val Arg Gln Leu Gly Lys Arg Ser
805 810 815

Ile Lys Gln Thr Glu Thr Leu Ala Arg Gln Pro Leu Ile Phe Asp Phe
820 825 830

Tyr Ala Ala Tyr Glu Pro Lys Lys Asn Leu Ile Phe Arg Ala Glu Val
835 840 845

Lys Asn Leu Phe Asp Arg Arg Tyr Ile Asp Pro Leu Asp Ala Gly Asn
850 855 860

Asp Ala Ala Thr Gln Arg Tyr Tyr Ser Ser Phe Asp Pro Lys Asp Lys
865 870 875 880

Asp Glu Asp Val Thr Cys Asn Ala Asp Lys Thr Leu Cys Asn Gly Lys
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Ser	Glu	Ala	Gln	Ile	Gln	Val	Leu	Glu	Asp	Val	His	Val	Lys	Ala	Lys
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Arg	Val	Pro	Lys	Asp	Lys	Lys	Val	Phe	Thr	Asp	Ala	Arg	Ala	Val	Ser
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Thr	Arg	Gln	Asp	Val	Phe	Lys	Ser	Gly	Glu	Asn	Leu	Asp	Asn	Ile	Val
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Arg	Ser	Ile	Pro	Gly	Ala	Phe	Thr	Gln	Gln	Asp	Lys	Ser	Ser	Gly	Ile
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Val	Ser	Leu	Asn	Ile	Arg	Gly	Asp	Ser	Gly	Phe	Gly	Arg	Val	Asn	Thr
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Met	Val	Asp	Gly	Ile	Thr	Gln	Thr	Phe	Tyr	Ser	Thr	Ser	Thr	Asp	Ala
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Gly	Arg	Ala	Gly	Gly	Ser	Ser	Gln	Phe	Gly	Ala	Ser	Val	Asp	Ser	Asn
	130						135					140			

Phe	Ile	Ala	Gly	Leu	Asp	Val	Val	Lys	Gly	Ser	Phe	Ser	Gly	Ser	Ala
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Leu Thr Gly Thr	Asn Ser Thr Lys Gly Asn Ala Met Ala Ala Ile Gly		
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Ala Arg Lys Trp	Leu Glu Ser Gly Ala Ser Val Gly Val Leu Tyr Gly		
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	225	230	235
Gln His Ile Gly	Asn Phe Gly Glu Glu Tyr Leu Glu Arg Arg Lys Gln		
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Gln Tyr Phe Val	Gln Glu Gly Gly Leu Lys Phe Asn Ala Gly Ser Gly		
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Lys Trp Glu Arg	Asp Leu Gln Arg Gln Tyr Trp Lys Thr Lys Trp Tyr		
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Lys Lys Tyr Glu	Asp Pro Gln Glu Leu Gln Lys Tyr Ile Glu Glu His		
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Ile Asp Pro Ser	Gly Leu Lys Gln Gln Ser Ala Gly Asn Leu Phe Lys		
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Leu Asn Thr Arg	Ile Gly Ser Arg Lys Ile Ile Asn Arg Asn Tyr Gln		
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Phe Asn Tyr Gly	Leu Ser Leu Asn Pro Tyr Thr Asn Leu Asn Leu Thr		
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Ala Ala Tyr Asn	Ser Gly Arg Gln Lys Tyr Pro Lys Gly Ala Lys Phe		
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Thr Gly Trp Gly	Leu Leu Lys Asp Phe Glu Thr Tyr Asn Asn Ala Lys		
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Ile Leu Asp Leu	Asn Asn Thr Ala Thr Phe Arg Leu Pro Arg Glu Thr		
	420	425	430
Glu Leu Gln Thr	Thr Leu Gly Phe Asn Tyr Phe His Asn Glu Tyr Gly		
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Gln	Asp	Asn	Gly	Leu	Tyr	Ser	Tyr	Leu	Gly	Arg	Phe	Lys	Gly	Asp	Lys	
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Gly	Leu	Leu	Pro	Gln	Lys	Ser	Thr	Ile	Val	Gln	Pro	Ala	Gly	Ser	Gln	
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Tyr	Phe	Asn	Thr	Phe	Tyr	Phe	Asp	Ala	Ala	Leu	Lys	Lys	Asp	Ile	Tyr	
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Arg	Leu	Asn	Tyr	Ser	Thr	Asn	Ala	Ile	Asn	Tyr	Arg	Phe	Gly	Gly	Glu	
		515					520					525				
Tyr	Thr	Gly	Tyr	Tyr	Gly	Ser	Glu	Asn	Glu	Phe	Lys	Arg	Ala	Phe	Gly	
	530					535					540					
Glu	Asn	Ser	Pro	Ala	Tyr	Lys	Glu	His	Cys	Asp	Pro	Ser	Cys	Gly	Leu	
545					550					555					560	
Tyr	Glu	Pro	Val	Leu	Lys	Lys	Tyr	Gly	Lys	Lys	Arg	Ala	Asn	Asn	His	
				565					570					575		
Ser	Val	Ser	Ile	Ser	Ala	Asp	Phe	Gly	Asp	Tyr	Phe	Met	Pro	Phe	Ala	
			580					585					590			
Gly	Tyr	Ser	Arg	Thr	His	Arg	Met	Pro	Asn	Ile	Gln	Glu	Met	Tyr	Phe	
		595					600					605				
Ser	Gln	Ile	Gly	Asp	Ser	Gly	Val	His	Thr	Ala	Leu	Lys	Pro	Glu	Arg	
	610					615					620					
Ala	Asn	Thr	Trp	Gln	Phe	Gly	Phe	Asn	Thr	Tyr	Lys	Lys	Gly	Leu	Leu	
625					630					635					640	
Lys	Gln	Asp	Asp	Ile	Leu	Gly	Leu	Lys	Leu	Val	Gly	Tyr	Arg	Ser	Arg	
				645					650					655		
Ile	Asp	Asn	Tyr	Ile	His	Asn	Val	Tyr	Gly	Lys	Trp	Trp	Asp	Leu	Asn	
			660					665					670			
Gly	Asp	Ile	Pro	Ser	Trp	Val	Gly	Ser	Thr	Gly	Leu	Ala	Tyr	Thr	Ile	
		675					680					685				
Arg	His	Arg	Asn	Phe	Lys	Asp	Lys	Val	His	Lys	His	Gly	Phe	Glu	Leu	
	690					695					700					
Glu	Leu	Asn	Tyr	Asp	Tyr	Gly	Arg	Phe	Phe	Thr	Asn	Leu	Ser	Tyr	Ala	
705					710					715					720	
Tyr	Gln	Lys	Ser	Thr	Gln	Pro	Thr	Asn	Phe	Ser	Asp	Ala	Ser	Glu	Ser	
				725					730					735		
Pro	Asn	Asn	Ala	Ser	Lys	Glu	Asp	Gln	Leu	Lys	Gln	Gly	Tyr	Gly	Leu	
			740					745						750		

Ser Arg Val Ser Ala Leu Pro Arg Asp Tyr Gly Arg Leu Glu Val Gly
755 760 765

Thr Arg Trp Leu Gly Asn Lys Leu Thr Leu Gly Gly Ala Met Arg Tyr
770 775 780

Phe Gly Lys Ser Ile Arg Ala Thr Ala Glu Glu Arg Tyr Ile Asp Gly
785 790 795 800

Thr Asn Gly Gly Asn Thr Ser Asn Val Arg Gln Leu Gly Lys Arg Ser
805 810 815

Ile Lys Gln Thr Glu Thr Leu Ala Arg Gln Pro Leu Ile Phe Asp Phe
820 825 830

Tyr Ala Ala Tyr Glu Pro Lys Lys Asn Leu Ile Phe Arg Ala Glu Val
835 840 845

Lys Asn Leu Phe Asp Arg Arg Tyr Ile Asp Pro Leu Asp Ala Gly Asn
850 855 860

Asp Ala Ala Thr Gln Arg Tyr Tyr Ser Ser Phe Asp Pro Lys Asp Lys
865 870 875 880

Asp Glu Asp Val Thr Cys Asn Ala Asp Lys Thr Leu Cys Asn Gly Lys
885 890 895

Tyr Gly Gly Thr Ser Lys Ser Val Leu Thr Asn Phe Ala Arg Gly Arg
900 905 910

Thr Phe Leu Met Thr Met Ser Tyr Lys Phe
915 920

<210> 885
<211> 498
<212> DNA
<213> Neisseria meningitidis

<400> 885
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aaaggcagtt acggcatatg ggaaatgctg ggctacaccg ccctcaaaat gcccgcgcgc 180
gcctacgaac tgattcccct cgccgctcct atcggcggac tggctccct cagccagctt 240
gccgcgggca gcgaactgac cgcatcaaaa gccagcggca tgagcaccaa aaagtgtgtg 300
ttgattctgt cgcagttcgg ttttattttt gctattgcca ccgtcgcgct cggcgaatgg 360
gttgcgccca cactgagcca aaaagccgaa aacatcaaag ccgccgccat caacggcaaa 420
atcagcaccg gcaataccgg cctttggctg aaagaaaaaa acagcgtgat caatgtgcgc 480
gaaatgttgc ccgaccat 498

<210> 886
<211> 166
<212> PRT
<213> Neisseria meningitidis

<400> 886
Met Asn Leu Ile Ser Arg Tyr Ile Ile Arg Gln Met Ala Val Met Ala

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	20	25	30
Leu Tyr Glu Thr Gly Asn Leu	Gly Lys Gly Ser Tyr Gly	Ile Trp Glu	
	35	40	45
Met Leu Gly Tyr Thr Ala Leu	Lys Met Pro Ala Arg Ala Tyr Glu Leu		
	50	55	60
Ile Pro Leu Ala Val Leu Ile Gly Gly Leu Val Ser Leu Ser Gln Leu			
	65	70	75
Ala Ala Gly Ser Glu Leu Thr Val Ile Lys Ala Ser Gly Met Ser Thr			
	85	90	95
Lys Lys Leu Leu Leu Ile Leu Ser Gln Phe Gly Phe Ile Phe Ala Ile			
	100	105	110
Ala Thr Val Ala Leu Gly Glu Trp Val Ala Pro Thr Leu Ser Gln Lys			
	115	120	125
Ala Glu Asn Ile Lys Ala Ala Ala Ile Asn Gly Lys Ile Ser Thr Gly			
	130	135	140
Asn Thr Gly Leu Trp Leu Lys Glu Lys Asn Ser Val Ile Asn Val Arg			
	145	150	155
Glu Met Leu Pro Asp His			
	165		

<210> 887
 <211> 980
 <212> DNA
 <213> Neisseria meningitidis

<400> 887							
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aaaggcagtt	acggcatatg	ggaaatgctg	ggctacaccg	ccctcaaaat	gcccgccgcg		180
gcctacgaac	tgattcccct	cgcgcgcctt	atcggcggac	tggtctccct	cagccagctt		240
gccgccggca	gcgaactgac	cgatcatcaa	gccagcggca	tgagcaccaa	aaagctgctg		300
ttgattctgt	cgcagttcgg	ttttattttt	gctattgcca	ccgtcgcgct	cggcgaatgg		360
gttgcgccca	cactgagcca	aaaagccgaa	aacatcaaag	ccgccgccat	caacggcaaa		420
atcagcaccg	gcaataccgg	cctttggctg	aaagaaaaaa	acagcrtkat	caatgtgcgc		480
gaaatgtttg	ccgaccatac	gcttttgggc	atcaaaattt	gggcgcgcaa	cgataaaaac		540
gaattggcag	aggcagtggg	agccgattcc	gccgttttga	acagcgacgg	cagttggcag		600
ttgaaaaaca	tccgccgcag	cacgcttggc	gaagacaaag	tcgaggtctc	tattgcggct		660
gaagaaaact	ggccgatttc	cgtcaaacgc	aaactgatgg	acgtattgct	cgtcaaacc		720
gaccaaattg	ccgtcggcga	actgaccacc	tacatccgcc	acctccaaaa	caacagccaa		780
aacacccgaa	tctacgccat	cgcattggtg	cgcaaatggg	tttaccgccg	cgcagcctgg		840
gtgatggcgc	tcgtcgcctt	tgcttttacc	ccgcaaacca	cccgccacgg	caatatgggc		900
ttaaaactct	tcggcggcat	ctgtstcgga	ttgctgttcc	accttgccgg	acggctcttt		960
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<210> 888
<211> 326
<212> PRT
<213> Neisseria meningitidis

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<222> (156)..(156)
<223> Xaa= any amino acid

<220>
<221> misc_feature
<222> (309)..(309)
<223> Xaa= any amino acid

<400> 888
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20 25 30
Leu Tyr Glu Thr Gly Asn Leu Gly Lys Gly Ser Tyr Gly Ile Trp Glu
35 40 45
Met Leu Gly Tyr Thr Ala Leu Lys Met Pro Ala Arg Ala Tyr Glu Leu
50 55 60
Ile Pro Leu Ala Val Leu Ile Gly Gly Leu Val Ser Leu Ser Gln Leu
65 70 75 80
Ala Ala Gly Ser Glu Leu Thr Val Ile Lys Ala Ser Gly Met Ser Thr
85 90 95
Lys Lys Leu Leu Leu Ile Leu Ser Gln Phe Gly Phe Ile Phe Ala Ile
100 105 110
Ala Thr Val Ala Leu Gly Glu Trp Val Ala Pro Thr Leu Ser Gln Lys
115 120 125
Ala Glu Asn Ile Lys Ala Ala Ala Ile Asn Gly Lys Ile Ser Thr Gly
130 135 140
Asn Thr Gly Leu Trp Leu Lys Glu Lys Asn Ser Xaa Ile Asn Val Arg
145 150 155 160
Glu Met Leu Pro Asp His Thr Leu Leu Gly Ile Lys Ile Trp Ala Arg
165 170 175
Asn Asp Lys Asn Glu Leu Ala Glu Ala Val Glu Ala Asp Ser Ala Val
180 185 190
Leu Asn Ser Asp Gly Ser Trp Gln Leu Lys Asn Ile Arg Arg Ser Thr
195 200 205
Leu Gly Glu Asp Lys Val Glu Val Ser Ile Ala Ala Glu Glu Asn Trp

210	215	220
Pro Ile Ser Val Lys Arg Asn Leu Met Asp Val Leu Leu Val Lys Pro		
225	230	235 240
Asp Gln Met Ser Val Gly Glu Leu Thr Thr Tyr Ile Arg His Leu Gln		
	245	250 255
Asn Asn Ser Gln Asn Thr Arg Ile Tyr Ala Ile Ala Trp Trp Arg Lys		
	260	265 270
Leu Val Tyr Pro Ala Ala Ala Trp Val Met Ala Leu Val Ala Phe Ala		
	275	280 285
Phe Thr Pro Gln Thr Thr Arg His Gly Asn Met Gly Leu Lys Leu Phe		
	290	295 300
Gly Gly Ile Cys Xaa Gly Leu Leu Phe His Leu Ala Gly Arg Leu Phe		
305	310	315 320
Gly Phe Thr Ser Gln Leu		
	325	

<210> 889
 <211> 1071
 <212> DNA
 <213> Neisseria meningitidis

<220>
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 <222> (148)..(148)
 <223> Xaa= any amino acid

<220>
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 <222> (153)..(153)
 <223> Xaa= any amino acid

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 <223> Xaa= any amino acid

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 <223> Xaa= any amino acid

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 <222> (260)..(260)
 <223> Xaa= any amino acid

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<223> Xaa= any amino acid

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<221> misc_feature

<222> (770)..(772)

<223> Xaa= any amino acid

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<222> (907)..(907)

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<222> (951)..(951)

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<223> Xaa= any amino acid

<400> 889

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gcctacgaac	tgatgcccct	cgcgcgcctt	atcggcggac	tggtctctnt	cagccagctt	240
gccgccggca	gcgaactgan	cgcatcaaaa	gccagcggca	tgagcaccaa	aaagctgctg	300
ttgattctgt	cgcagttcgg	ttttatTTTT	gctattgcca	ccgtcgcgct	cggcgaatgg	360
gttgcgccca	cactgagcca	aaaagccgaa	aacatcaaag	ccgcggccat	caacggcaaa	420
atcagtaccg	gcaataccgg	cctttggctg	aaagaaaaaa	acagcattat	caatgtgcgc	480
gaaatgtttg	ccgaccatac	cctgctgggc	attaaaaatct	gggcccgcga	cgataaaaaac	540
gaactggcag	aggcagtgga	agccgattcc	gccgttttga	acagcgacgg	cagttggcag	600
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gaccaaatgt	ccgtcggcga	actgaccacc	tacatccgcc	acctccaaan	nnacagccaa	780
aacacccgaa	tctacgccat	cgcattggtg	cgcaaatagg	tttaccgccg	cgcagcctgg	840
gtgatggcgc	tcgtcgcctt	tgcttttacc	ccgcaaacca	cccgccacgg	caatatgggc	900
ttaaaantct	tcggcgccat	ctgtctcgga	ttgctgttcc	accttgccgg	ncggctcttc	960
nggtttacca	gccaactcta	cggcatcccg	cccttcctcg	ncggcgcaact	acctaccata	1020
gccttcgcct	tgctcgcgct	ttggctgata	cgcaaacagg	aaaaacgcta	a	1071

<210> 890

<211> 356

<212> PRT

<213> Neisseria meningitidis

<220>

<221> misc_feature

<222> (50)..(50)

<223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (58)..(58)
 <223> Xaa= any amino acid

<220>
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 <222> (77)..(77)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (87)..(87)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (223)..(223)
 <223> Xaa= any amino acid

<220>
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 <222> (257)..(258)
 <223> Xaa= any amino acid

<220>
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 <222> (303)..(303)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (321)..(321)
 <223> Xaa= any amino acid

<220>
 <221> misc_feature
 <222> (334)..(334)
 <223> Xaa= any amino acid

<400> 890
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 Val Tyr Ala Leu Leu Ala Phe Leu Ala Leu Tyr Ser Phe Phe Glu Ile
 20 25 30
 Leu Tyr Glu Thr Gly Asn Leu Gly Lys Gly Ser Tyr Gly Ile Trp Glu
 35 40 45
 Met Xaa Gly Tyr Thr Ala Leu Lys Met Xaa Ala Arg Ala Tyr Glu Leu
 50 55 60
 Met Pro Leu Ala Val Leu Ile Gly Gly Leu Val Ser Xaa Ser Gln Leu
 65 70 75 80

Ala Ala Gly Ser Glu Leu Xaa Val Ile Lys Ala Ser Gly Met Ser Thr
85 90 95

Lys Lys Leu Leu Leu Ile Leu Ser Gln Phe Gly Phe Ile Phe Ala Ile
100 105 110

Ala Thr Val Ala Leu Gly Glu Trp Val Ala Pro Thr Leu Ser Gln Lys
115 120 125

Ala Glu Asn Ile Lys Ala Ala Ala Ile Asn Gly Lys Ile Ser Thr Gly
130 135 140

Asn Thr Gly Leu Trp Leu Lys Glu Lys Asn Ser Ile Ile Asn Val Arg
145 150 155 160

Glu Met Leu Pro Asp His Thr Leu Leu Gly Ile Lys Ile Trp Ala Arg
165 170 175

Asn Asp Lys Asn Glu Leu Ala Glu Ala Val Glu Ala Asp Ser Ala Val
180 185 190

Leu Asn Ser Asp Gly Ser Trp Gln Leu Lys Asn Ile Arg Arg Ser Thr
195 200 205

Leu Gly Glu Asp Lys Val Glu Val Ser Ile Ala Ala Glu Glu Xaa Trp
210 215 220

Pro Ile Ser Val Lys Arg Asn Leu Met Asp Val Leu Leu Val Lys Pro
225 230 235 240

Asp Gln Met Ser Val Gly Glu Leu Thr Thr Tyr Ile Arg His Leu Gln
245 250 255

Xaa Xaa Ser Gln Asn Thr Arg Ile Tyr Ala Ile Ala Trp Trp Arg Lys
260 265 270

Leu Val Tyr Pro Ala Ala Ala Trp Val Met Ala Leu Val Ala Phe Ala
275 280 285

Phe Thr Pro Gln Thr Thr Arg His Gly Asn Met Gly Leu Lys Xaa Phe
290 295 300

Gly Gly Ile Cys Leu Gly Leu Leu Phe His Leu Ala Gly Arg Leu Phe
305 310 315 320

Xaa Phe Thr Ser Gln Leu Tyr Gly Ile Pro Pro Phe Leu Xaa Gly Ala
325 330 335

Leu Pro Thr Ile Ala Phe Ala Leu Leu Ala Val Trp Leu Ile Arg Lys
340 345 350

Gln Glu Lys Arg
355

<210> 891

<211> 1071

<212> DNA

<213> Neisseria gonorrhoeae

<400> 891

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aaaggcagtt acggcatatg ggaaatgctg ggctacaccg ccctcaaaat gcccgcccg    180
gcctacgaac tcatgcccct cgcgcgtctc atcggcggac tggcctctct cagccagctt    240
gccgcccggc gcgaactggc cgtcatcaaa gccagcggca tgagcaccaa aaagctgctg    300
ttgattctgt ctacgttcgg ttttattttt gctattgccg ccgtcgcgct cggcgaatgg    360
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atcagcaccg gcaataaccg cttttggctg aaagaaaaaa ccagcattat caatgtgcgc    480
ggaatgttgc ccgaccatac gcttttgggc atcaaaattt gggcgcgcaa cgataaaaac    540
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gaagaaactt ggccgattgc cgtcagacgc aacctgatgg acgtattgct cgtcaagccc    720
gaccaaattg ccgtcggcga gctgaccacc tacatccgcc acctccaaaa caacagccaa    780
aacacccaaa tctacgccat cgcattggtg cgtaaacctg tttaccccgt cgccgcatgg    840
gtcatggcgc tcgttgccct cgcctttacg ccgcaaacca cgcgccacgg caatatgggc    900
ttaaactctc tcggcggcat ctgtctcgga ttgctgttcc accttgccgg caggctcttc    960
gggtttacca gccaaactcta cggcacccca cccttcctcg ccggcgcact gcctaccata   1020
gccttcgcct tgctcgctgt ttggctgata cgcaaacagg aaaaacgttg a         1071
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<210> 892

<211> 356

<212> PRT

<213> Neisseria gonorrhoeae

<400> 892

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Val Tyr Ala Leu Leu Ala Phe Leu Ala Leu Tyr Ser Phe Phe Glu Ile
      20              25              30

Leu Tyr Glu Thr Gly Asn Leu Gly Lys Gly Ser Tyr Gly Ile Trp Glu
 35              40              45

Met Leu Gly Tyr Thr Ala Leu Lys Met Pro Ala Arg Ala Tyr Glu Leu
 50              55              60

Met Pro Leu Ala Val Leu Ile Gly Gly Leu Ala Ser Leu Ser Gln Leu
 65              70              75              80

Ala Ala Gly Ser Glu Leu Ala Val Ile Lys Ala Ser Gly Met Ser Thr
      85              90              95

Lys Lys Leu Leu Leu Ile Leu Ser Gln Phe Gly Phe Ile Phe Ala Ile
 100              105              110

Ala Ala Val Ala Leu Gly Glu Trp Val Ala Pro Thr Leu Ser Gln Lys
 115              120              125

Ala Glu Asn Ile Lys Ala Ala Ala Ile Asn Gly Lys Ile Ser Thr Gly
 130              135              140
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Asn Thr Gly Leu Trp Leu Lys Glu Lys Thr Ser Ile Ile Asn Val Arg
145 150 155 160

Gly Met Leu Pro Asp His Thr Leu Leu Gly Ile Lys Ile Trp Ala Arg
165 170 175

Asn Asp Lys Asn Glu Leu Ala Glu Ala Val Glu Ala Asp Ser Ala Val
180 185 190

Leu Asn Ser Asp Gly Ser Trp Gln Leu Lys Asn Ile Arg Arg Ser Ile
195 200 205

Met Gly Thr Asp Lys Ile Glu Thr Ser Ala Ala Ala Glu Glu Thr Trp
210 215 220

Pro Ile Ala Val Arg Arg Asn Leu Met Asp Val Leu Leu Val Lys Pro
225 230 235 240

Asp Gln Met Ser Val Gly Glu Leu Thr Thr Tyr Ile Arg His Leu Gln
245 250 255

Asn Asn Ser Gln Asn Thr Gln Ile Tyr Ala Ile Ala Trp Trp Arg Lys
260 265 270

Leu Val Tyr Pro Val Ala Ala Trp Val Met Ala Leu Val Ala Phe Ala
275 280 285

Phe Thr Pro Gln Thr Thr Arg His Gly Asn Met Gly Leu Lys Leu Phe
290 295 300

Gly Gly Ile Cys Leu Gly Leu Leu Phe His Leu Ala Gly Arg Leu Phe
305 310 315 320

Gly Phe Thr Ser Gln Leu Tyr Gly Thr Pro Pro Phe Leu Ala Gly Ala
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Leu Pro Thr Ile Ala Phe Ala Leu Leu Ala Val Trp Leu Ile Arg Lys
340 345 350

Gln Glu Lys Arg
355

<210> 893

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 893

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20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
 50 55 60
 Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
 65 70 75 80
 Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
 85 90 95
 Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
 100 105 110
 Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
 115 120 125
 Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
 130 135 140
 Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160
 Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175
 Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190
 Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205
 Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
 210 215 220
 Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240
 Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255
 Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
 260 265 270
 Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 894
 <211> 287
 <212> PRT
 <213> Neisseria meningitidis

<400> 894
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 20 25 30

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 35 40 45
 Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
 50 55 60
 Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
 65 70 75 80
 Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
 85 90 95
 Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
 100 105 110
 Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
 115 120 125
 Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
 130 135 140
 Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160
 Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175
 Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190
 Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205
 Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
 210 215 220
 Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240
 Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255
 Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
 260 265 270
 Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 895
 <211> 287
 <212> PRT
 <213> Neisseria meningitidis

<400> 895
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 20 25 30
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 35 40 45
 Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
 50 55 60
 Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
 65 70 75 80
 Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
 85 90 95
 Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
 100 105 110
 Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
 115 120 125
 Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
 130 135 140
 Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160
 Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175
 Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190
 Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205
 Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
 210 215 220
 Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240
 Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255
 Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
 260 265 270
 Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 896

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 896

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15
Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30
Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45
Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
50 55 60
Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80
Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95
Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110
Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125
Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140
Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160
Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175
Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190
Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205
Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220
Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240
Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255
Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270
Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 897

<211> 287
<212> PRT
<213> Neisseria meningitidis

<400> 897
Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15
Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30
Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45
Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
50 55 60
Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80
Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95
Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110
Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125
Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140
Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160
Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175
Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190
Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205
Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220
Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240
Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255
Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 898

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 898

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
 1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
 20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
 35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu His Ile Gln Pro
 50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
 65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
 85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
 100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
 115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
 130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
 210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 899
<211> 287
<212> PRT
<213> Neisseria meningitidis

<400> 899
Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu His Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 900

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 900

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
 260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 901
 <211> 287
 <212> PRT
 <213> Neisseria meningitidis

<400> 901
 Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
 1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
 20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
 35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
 50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
 65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
 85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
 100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
 115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
 130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 902

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 902

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 903

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 903

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu His Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 904

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 904

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu His Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 905

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 905

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu His Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 906

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 906

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 907

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 907

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu His Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 908

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 908

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu His Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val	Phe	Gln	His	Lys	Pro	Tyr	Leu	Asp	Asp	Phe	Lys	Lys	Glu	His	Asn		
			100					105					110				
Leu	Asp	Ile	Thr	Glu	Val	Phe	Gln	Val	Pro	Thr	Ala	Pro	Leu	Gly	Leu		
		115					120					125					
Tyr	Pro	Gly	Lys	Leu	Lys	Ser	Leu	Glu	Glu	Val	Lys	Asp	Gly	Ser	Thr		
	130					135					140						
Val	Ser	Ala	Pro	Asn	Asp	Pro	Ser	Asn	Phe	Ala	Arg	Val	Leu	Val	Met		
145				150					155						160		
Leu	Asp	Glu	Leu	Gly	Trp	Ile	Lys	Leu	Lys	Asp	Gly	Ile	Asn	Pro	Leu		
			165					170					175				
Thr	Ala	Ser	Lys	Ala	Asp	Ile	Ala	Glu	Asn	Leu	Lys	Asn	Ile	Lys	Ile		
		180						185					190				
Val	Glu	Leu	Glu	Ala	Ala	Gln	Leu	Pro	Arg	Ser	Arg	Ala	Asp	Val	Asp		
	195					200						205					
Phe	Ala	Val	Val	Asn	Gly	Asn	Tyr	Ala	Ile	Ser	Ser	Gly	Met	Lys	Leu		
	210				215						220						
Thr	Glu	Ala	Leu	Phe	Gln	Glu	Pro	Ser	Phe	Ala	Tyr	Val	Asn	Trp	Ser		
225				230					235						240		
Ala	Val	Lys	Thr	Ala	Asp	Lys	Asp	Ser	Gln	Trp	Leu	Lys	Asp	Val	Thr		
			245					250						255			
Glu	Ala	Tyr	Asn	Ser	Asp	Ala	Phe	Lys	Ala	Tyr	Ala	His	Lys	Arg	Phe		
		260					265					270					
Glu	Gly	Tyr	Lys	Ser	Pro	Ala	Ala	Trp	Asn	Glu	Gly	Ala	Ala	Lys			
	275					280					285						
<210>	909																
<211>	287																
<212>	PRT																
<213>	Neisseria meningitidis																
<400>	909																
Met	Lys	Thr	Phe	Phe	Lys	Thr	Leu	Ser	Ala	Ala	Ala	Leu	Ala	Leu	Ile		
1			5					10					15				
Leu	Ala	Ala	Cys	Gly	Gly	Gln	Lys	Asp	Ser	Ala	Pro	Ala	Ala	Ser	Ala		
		20					25					30					
Ser	Ala	Ala	Ala	Asp	Asn	Gly	Ala	Glu	Lys	Lys	Glu	Ile	Val	Phe	Gly		
	35					40					45						
Thr	Thr	Val	Gly	Asp	Phe	Gly	Asp	Met	Val	Lys	Glu	Gln	Ile	Gln	Ala		
	50					55					60						
Glu	Leu	Glu	Lys	Lys	Gly	Tyr	Thr	Val	Lys	Leu	Val	Glu	Phe	Thr	Asp		
65					70				75					80			

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 910

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 910

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
 65 70 75 80
 Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
 85 90 95
 Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
 100 105 110
 Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
 115 120 125
 Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
 130 135 140
 Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160
 Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175
 Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190
 Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205
 Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
 210 215 220
 Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240
 Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255
 Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
 260 265 270
 Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 911
 <211> 287
 <212> PRT
 <213> Neisseria meningitidis

<400> 911
 Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
 1 5 10 15
 Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
 20 25 30
 Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
 35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 912

<211> 287

<212> PRT

<213> *Neisseria meningitidis*

<400> 912

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
 35 40 45
 Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
 50 55 60
 Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
 65 70 75 80
 Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
 85 90 95
 Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
 100 105 110
 Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
 115 120 125
 Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
 130 135 140
 Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160
 Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175
 Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190
 Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205
 Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
 210 215 220
 Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240
 Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255
 Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
 260 265 270
 Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 913
 <211> 287
 <212> PRT
 <213> Neisseria meningitidis

<400> 913
 Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
 1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
 20 25 30
 Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
 35 40 45
 Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
 50 55 60
 Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
 65 70 75 80
 Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
 85 90 95
 Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
 100 105 110
 Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
 115 120 125
 Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
 130 135 140
 Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160
 Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175
 Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190
 Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205
 Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
 210 215 220
 Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240
 Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255
 Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
 260 265 270
 Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 914

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 914

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15
Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30
Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45
Thr Thr Val Gly Asp Phe Gly Asp Leu Val Lys Glu Gln Ile Gln Pro
50 55 60
Glu Leu Glu Lys Lys Gly Tyr Thr Val Glu Leu Val Glu Phe Thr Asp
65 70 75 80
Tyr Val Arg Pro Asn Leu Ala Leu Gly Glu Gly Glu Leu Asp Ile Asn
85 90 95
Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110
Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125
Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140
Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160
Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175
Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190
Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205
Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220
Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240
Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255
Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270
Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 915

<211> 287
<212> PRT
<213> Neisseria meningitidis

<400> 915
Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15
Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30
Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
35 40 45
Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
50 55 60
Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80
Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95
Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110
Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125
Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140
Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160
Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175
Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190
Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205
Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220
Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240
Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255
Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 916
 <211> 287
 <212> PRT
 <213> Neisseria meningitidis

<400> 916
 Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
 1 5 10 15
 Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
 20 25 30
 Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
 35 40 45
 Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
 50 55 60
 Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
 65 70 75 80
 Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
 85 90 95
 Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
 100 105 110
 Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
 115 120 125
 Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
 130 135 140
 Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160
 Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175
 Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190
 Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205
 Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
 210 215 220
 Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240
 Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 917

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 917

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 918

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 918

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 919

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 919

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 920

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 920

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160

Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175

Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190

Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205

Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220

Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
225 230 235 240

Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255

Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270

Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 921

<211> 288

<212> PRT

<213> Neisseria gonorrhoeae

<400> 921

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ala Ala Pro Ser Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe
35 40 45

Gly Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln
50 55 60

Ala Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr
65 70 75 80

Asp Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile
85 90 95

Asn Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His
100 105 110

Asn Leu Asp Ile Thr Glu Ala Phe Gln Val Pro Thr Ala Pro Leu Gly
115 120 125

Leu Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser
130 135 140

Thr Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Ala Leu Val
145 150 155 160

Met Leu Asn Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro
165 170 175

Leu Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys
180 185 190

Ile Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val
195 200 205

Asp Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys
210 215 220

Leu Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp
225 230 235 240

Ser Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val
245 250 255

Thr Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg
260 265 270

Phe Glu Gly Tyr Lys Tyr Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 922

<211> 288

<212> PRT

<213> Neisseria gonorrhoeae

<400> 922

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ala Ala Pro Ser Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe
35 40 45

Gly Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln
50 55 60

Ala Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr
65 70 75 80

Asp Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile
85 90 95

Asn Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His
100 105 110

Asn Leu Asp Ile Thr Glu Ala Phe Gln Val Pro Thr Ala Pro Leu Gly
115 120 125

Leu Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser
130 135 140

Thr Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Ala Leu Val
145 150 155 160

Met Leu Asn Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro
165 170 175

Leu Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys
180 185 190

Ile Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val
195 200 205

Asp Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys
210 215 220

Leu Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp
225 230 235 240

Ser Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val
245 250 255

Thr Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg
260 265 270

Phe Glu Gly Tyr Lys Tyr Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 923

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 923

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Ala Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110

Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125

Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140

Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160
 Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175
 Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190
 Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205
 Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
 210 215 220
 Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240
 Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255
 Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
 260 265 270
 Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 924
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Novel
 Sequence

<400> 924
 cgcgatccg ctacgggaca cacttatttc gg

32

<210> 925
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Novel
 Sequence

<400> 925
 cccgctcgag ccagcggtag cctaatt

27

<210> 926
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Novel
 Sequence

<400> 926
 gcggatccca tatgtttgat ttcggtttgg g 31

<210> 927
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Novel
 Sequence

<400> 927
 cccgctcgag gacggcataa cggcg 25

<210> 928
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Novel
 Sequence

<400> 928
 gcggatccca tatgtttgat ttcggtttgg g 31

<210> 929
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Novel
 Sequence

<400> 929
 cccgctcgag tgatttacgg acgcgca 27

<210> 930
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Novel
 Sequence

<400> 930
 gcggatccca tatgtgcgga ggtcaaaaag ac 32

<210> 931

<211> 25
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 931
cccgctcgag tttggctgcg ccttc

25

<210> 932
<211> 36
<212> DNA
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21

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27

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24

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28

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33

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<211> 44
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1042
aaagaattca tgaacaaaac cctctatcgt gtgattttca accg

44

<210> 1043
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1043
aaactgcagt tacgaatgcc tgcttgctcg accgtactg

39

<210> 1044
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1044
aaagaattct tgcttggtgca aacagaaaaa gacgg

35

<210> 1045
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1045
aaaaaagtgc acctatTTTT taggggcttt tgcttggttg aaaagcctgc c

51

<210> 1046
<211> 38

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1046
aaagaattct acaacatgta tcaggaaaac caataccg 38

<210> 1047
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1047
aaactgcagt tatgaaaaca ggcgcagggc ggttttgcc 39

<210> 1048
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1048
aaagaattcg caaggctacc ccaatccgcc gtg 33

<210> 1049
<211> 33
<212> DNA
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<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1049
aaactgcagc ggtttggtg cctggccggt gat 33

<210> 1050
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1050

aaagaattcg ccttggtctg gctggttttc gc

32

<210> 1051

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1051

aaactgcagt catccgccac cccacctcgg ccatccatc

39

<210> 1052

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1052

aaaaaagtcg acatgtctta ccgcgcaagc agttctcc

38

<210> 1053

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1053

aaactgcagt caggaacaca aacgatgacg aatatccgta tc

42

<210> 1054

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1054

aaagaattcg cgctgttttt tgcggcggcg tat

33

<210> 1055

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1055
aaactgcagc gccgtttcaa gacgaaaaag tcg

33

<210> 1056
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1056
aaagaattcg cggaacggt cgaag

25

<210> 1057
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1057
aaactgcagt taatcttgtc ttccgatata c

31

<210> 1058
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1058
aaagaattca tgactgataa tcggggggtt acg

33

<210> 1059
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1059
aaaaaagtcg accttaagta acttgagtc cttatc

36

<210> 1060
<211> 32

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1060
aaagaattca tgcaagctgt ccgctacagg cc

32

<210> 1061
<211> 48
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1061
aaactgcagc tattgcaatg cgccgccgcg ggaatgtttg agcaggcg

48

<210> 1062
<211> 44
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1062
aaagaattca tggattttcg ttttgacatt atttacgaat accg

44

<210> 1063
<211> 36
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1063
aaactgcagt tatttttttga tgaaattttg gggcgg

36

<210> 1064
<211> 33
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1064

aaagaattcg cagtacttgc cattctcggt gcg

33

<210> 1065

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1065

aaactgcagc tccggatcgt ctgtaaacgc att

33

<210> 1066

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1066

gcggatccca tatggaaatt cgggcaataa aat

33

<210> 1067

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1067

cccgtctgag ccagcggacg cgttc

25

<210> 1068

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1068

gcggatccca tatgaaagaa gcgggggtttg

30

<210> 1069

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1069
cccgctcgag ccaatctgcc agccgt

26

<210> 1070
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1070
cgcgatccc atatggaaga tgcagggcgc g

31

<210> 1071
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1071
cccgctcgag aaacttgtag ctcacgt

28

<210> 1072
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1072
gcggatccca tatgtctgtg caagcagtat tg

32

<210> 1073
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

<400> 1073
cccgctcgag atcctgtgcc aatgcg

26

<210> 1074
<211> 31

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Novel
 Sequence

 <400> 1074
 gcggatccca tatgccgtct gaaaaagctt t 31

 <210> 1075
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Novel
 Sequence

 <400> 1075
 cccgctcgag aaataccgct gaggatg 27

 <210> 1076
 <211> 33
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Novel
 Sequence

 <400> 1076
 cgcggatccg ctagcatgaa gcggcgtata gcc 33

 <210> 1077
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Novel
 Sequence

 <400> 1077
 cccgctcgag ttccgaatat ttggaacttt t 31

 <210> 1078
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Novel
 Sequence

 <400> 1078

cgcggatccc atatgggcac ggcgggaaat a

31

<210> 1079

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1079

cccgcctcgag ataacggtat gccgcc

26

<210> 1080

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1080

gcggatccca tatgtttcgt ttacaattca ggc

33

<210> 1081

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1081

cccgcctcgag cggcggtttta tagcgg

26

<210> 1082

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1082

gcggatccca tatggctttt ttggcggtaa tg

32

<210> 1083

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

28

<400> 1083
cccgcgcgag taacgtttcc gtgcgttt

<210> 1084

<211> 29

<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

29

<400> 1084
gcggatccca tatgttgccc acaggcagc

<210> 1085

<211> 26

<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

26

<400> 1085
cccgcgcgag gacgatggca aacagc

<210> 1086

<211> 30

<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

30

<400> 1086
gcggatccca tatgccgtct gaagcagtct

<210> 1087

<211> 31

<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Novel
Sequence

31

<400> 1087
cccgcgcgag atctgttggt tttaaaatat t

<210> 1088

<211> 33

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Novel
 Sequence

 <400> 1088
 gcggatccca tatggataat tctggtagtg aag 33

 <210> 1089
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Novel
 Sequence

 <400> 1089 27
 cccgctcgag aaacgtatag cctacct

 <210> 1090
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Novel
 Sequence

 <400> 1090 31
 gcggatccca tatggataacc gctttgaacc t

 <210> 1091
 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Novel
 Sequence

 <400> 1091 28
 cccgctcgag aatggcttcc gcaatatg

 <210> 1092
 <211> 33
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Novel
 Sequence

 <400> 1092

gcggatccca tatgaccttt ttacaacggt tgc

33

<210> 1093

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1093

cccgtcgcag agattgttgc tgttttttcg

30

<210> 1094

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1094

gcggatccca tatgtctgtc tttcaaacgg c

31

<210> 1095

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Novel
Sequence

<400> 1095

cccgtcgcag tttgtttttg caagacag

28

<210> 1096

<211> 228

<212> PRT

<213> Neisseria gonorrhoeae

<400> 1096

Met Tyr Ala Leu Thr Ala Ala Gln Gln Gln Lys Ala Leu Phe Arg Leu
1 5 10 15

Val Leu Phe His Ile Leu Ile Ile Ala Ala Ser Asn Tyr Leu Val Gln
20 25 30

Phe Pro Phe Arg Ile Phe Gly Ile His Thr Thr Trp Gly Ala Phe Ser
35 40 45

Phe Pro Phe Ile Phe Leu Ala Thr Asp Leu Thr Val Arg Ile Phe Gly
50 55 60

Ser His Leu Ala Arg Arg Ile Ile Phe Trp Val Met Phe Pro Ala Leu
65 70 75 80

Leu Leu Ser Tyr Val Phe Ser Val Leu Phe His Asn Gly Ser Trp Thr
85 90 95

Gly Leu Gly Ala Leu Ser Gln Phe Asn Thr Phe Val Gly Arg Ile Ala
100 105 110

Leu Ala Ser Phe Ala Ala Tyr Ala Leu Gly Gln Ile Leu Asp Ile Phe
115 120 125

Val Phe Asp Lys Leu Arg Arg Leu Lys Ala Trp Trp Ile Ala Pro Ala
130 135 140

Ala Ser Thr Val Ile Gly Asn Ala Leu Asp Thr Leu Val Phe Phe Ala
145 150 155 160

Val Ala Phe Tyr Ala Ser Ser Asp Glu Phe Met Ala Ala Asn Trp Gln
165 170 175

Gly Ile Ala Phe Val Asp Tyr Leu Phe Lys Leu Thr Val Cys Thr Leu
180 185 190

Phe Phe Leu Pro Ala Tyr Gly Val Ile Leu Asn Leu Leu Thr Lys Lys
195 200 205

Leu Thr Ala Leu Gln Thr Lys Gln Ala Gln Asp Arg Pro Val Pro Ser
210 215 220

Leu Gln Asn Pro
225

<210> 1097

<211> 287

<212> PRT

<213> Neisseria meningitidis

<400> 1097

Met Lys Thr Phe Phe Lys Thr Leu Ser Ala Ala Ala Leu Ala Leu Ile
1 5 10 15

Leu Ala Ala Cys Gly Gly Gln Lys Asp Ser Ala Pro Ala Ala Ser Ala
20 25 30

Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
35 40 45

Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu His Ile Gln Pro
50 55 60

Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80

Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95

Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
 100 105 110
 Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
 115 120 125
 Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
 130 135 140
 Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
 145 150 155 160
 Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
 165 170 175
 Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
 180 185 190
 Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
 195 200 205
 Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
 210 215 220
 Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser
 225 230 235 240
 Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
 245 250 255
 Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
 260 265 270
 Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
 275 280 285

<210> 1098

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Novel Sequence

<400> 1098

ggaattccat atggccatgg agacctattc tgttta